

SCIENCE

Published by the
AMERICAN ASSOCIATION
FOR THE
ADVANCEMENT
OF SCIENCE



Index to Volume 118

July-December 1953

No.	Date of Issue	Pages
3053	July 3	1- 32
3054	July 10	33- 60
3055	July 17	61- 90
3056	July 24	91-120
3057	July 31	121-146
3058	August 7	147-168
3059	August 14	169-198
3060	August 21	199-226
3061	August 28	227-258
3062	September 4	259-284
3063	September 11	285-310
3064	September 18	311-336
3065	September 25	337-366
3066	October 2	367-392
3067	October 9	393-424
3068	October 16	425-450
3069	October 23	451-496
3070	October 30	497-528
3071	November 6	529-566
3072	November 13	567-606
3073	November 20	607-634
3074	November 27	635-660
3075	December 4	661-700
3076	December 11	701-728
3077	December 18	729-758
3078	December 25	759-786

Ruth G. Christman
Acting Executive Editor

AAAS EDITORIAL BOARD
(Terms expire June 30, 1954)

Bentley Glass, **Acting Chairman**

Mark H. Adams Karl Lark-Horovitz
William R. Amberson Edwin M. Lerner
Wallace R. Brode Walter J. Nickerson

F. A. Moulton, Advertising Representative

Q1
S35
2nd Set

Author-Subject Index

A

AAAS

Boston meeting
Annual Exposition of Science and

Industry, 675

background, 224, 319

Science Theatre, 662

special sessions, 661

summary of events, 667

symposia, 524

Cooperative Committee on the
Teaching of Science and
Mathematics, 527

emblem, 226

fifty-year members, 336

George Westinghouse Science Writing Awards, 319, 740

Montana and Wyoming to Western
Division, 226

new journal editor, 763

Pacific Division meeting, 335

Theobald Smith Award, 14, 238

Absorption coefficients for x-rays, 300

Abstracts of papers, punch cards for,
360

Achromobacter fischeri, 385

ACTH and cortical cellular metabolism, 133

Adamkiewicz, V. W., 415

Adams, Mark H., 66, 523

Adams, R. E., 163

Adenosinetriphosphatase activity,
EDTA and, 218

Adenosinetriphosphate (ATP) and
ciliated mucos of frog, 553
progesterone and phosphate release
rate, 103

Adkins, Dorothy C., 3 (8/7)

Adrenal cortex, oxygen consumption of
slices from, influence of ACTH,
133

Adrenal gland, and circulatory distress, 248
estrogen excretion and adrenalectomy, 21

Adrenal glands and thiouracil, 307

Adrenal perfusion, chemical transformation of steroids, 101

Adrenal weight and body weight, 30

Adrenaline, adrenergic mechanisms and central nervous system, 367
and noradrenaline, quantitative determination in mixtures, 381

isopropyl nor-, optical isomers and
potency ratio, 249

Aedes eggs, hatching stimulus, 279

Aerial mapping and ER-55 projector,
484, 492

Aerobacter aerogenes, glycogen identification in, 141

Aerosols, growth and shrinkage, 516

Age determinations, lead isotope method, 486

Age, parental, and sex ratio, 448

Agglutinogens and Rh agglutinogen,
721

Aguirre, F., 725

Aiken, J. K., 361

Air, ground level, concentration of contaminant alkali salts, 612

Airborne particulate material, collecting, mounting, and sectioning, 490

Alaska, Mount Wrangell Observatory, 420

Albinism from hydrazine derivatives, 192

Albumen, human, ^{131}I -tagged, and blood volume determination, 595

Albumin, bovine serum, 167

Alexander, Jerome, 198

Aliphatic compounds in tuberculosis, 497, 726

Alkali salts, contaminant, concentration in ground level air, 612

Alkaloids in *Dioscorea*, 329
veratrum see *Andromedotoxin*

Allan, D. W., 486

Allen, Ernest M., 337

Allen, Fred H., Jr., 721

Allen, Mildred, 126

Allen, R. H., 55

Allerod period, radiocarbon dating, 9

Allithiamine, effects on thiamine-requiring organisms, 548
See also Thiamine

Allium genus ingredients and thiamine, reaction products, 325

Allopregnane-21-ol-3,20-dione, 101

Amatuzio, Donald S., 558

Amberson, William R., 3 (8/21), 564

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE see AAAS

American coal balls, floral-faunal associations, 240

American foreign policy and scientists, 449

American Museum of Natural History, entomological expeditions, 685

American Physical Society, Council statement, 311

American Physiological Society, survey of physiological science, 3 (7/81)

Amine, mercaptoethyl-, failure to protect against mutagenic effects of radiation, 776, 777

Amoebae tracks in *D. discoideum* cultures, 597

Anderson, B. G., 548

Anderson, E. C., 6

Anderson, R. C., 537

Andrews, Henry N., Jr., 331

Andromedotoxin from rhododendron leaves for lowering of blood pressure, 543

Anemia, hemolytic, and blood group O, 183
sickle cell *see* Heinz bodies

Anesthetics, local, new series, 138, 364

Angel, J. Lawrence, 3 (9/25)

Animal, chromosome numbers, rodents, 630

infections, *S. typhimurium*, 140

nutrition, estrogenic substances in soybean oil meal, 164

respiration and tension concept, 254

tunneling activity, casts of soil cavities for study of, 380

unanesthetized, flowmeters for, 82

Animal bloods, salvage for serology in collecting expeditions, 57

Animal feeds, estrogens in, 650

Spanish moss as, 626

Animals, jugular technique for repeated bleeding, 563

laboratory, starvation and responsiveness, 631

Annelids, polychaetous, technique for rearing, 363

Antibiotics, colorimetric for determination in aqueous solution, 628

effect of cortisone on therapeutic efficacy, 549

effect on oxygen uptake of bacteria, 73

micoina, activity on *Brucellae*, compared with that of Terramycin, 413

pathogenicity of isoniazid-resistant variants of tubercle bacilli, 297

synergism and antagonism of auxin, 357

tuberculostatic drugs, 497, 726
See also individual antibiotics

Antibodies, response of irradiated cancer patients to *V. metchnikovii*, 442

Antibody, role of, in reaction of *T. pallidum* with whole blood, 733

Antidiuretic activity of blood, effect of noxious stimulus, 602

Antifertility *see* Fertility

Antigens, use of phosphatides for serodiagnosis of syphilis, 55

Antimicrobial agents and cortisone, 549

Antithyroid activity of thiocyanomiazoles, 698
drug *see* Phenothiazine

Antituberculous drugs, 497, 726

Aphids and wind currents, 115

Apparatus

- chromatogram spotting, 56
- device for collecting blood samples from intra-arterial catheter, 390
- device for moving paper strips past a Geiger counter, 654
- electroconvection channel, 388
- flowmeters for unanesthetized animals, 82
- fly-tagging device, 48
- for analysis of gas samples, 522
- for centrifugation of particulate matter in controlled atmosphere, 158

gravimetric thermal precipitator, *Azotobacter agile*, formation and behavior of conjugation cells, 34

holder for seedlings in Avena test, 214

metal-filled microelectrode, 22

pipetting, for radioisotopes, 102

preparation of high-purity lithium metal, 778

projector for aerial mapping, 484, 492

safety pipette, 488

scintillation counter, 493

slide rule for time intervals calculation, 309

small-volume dosimeter for x-rays and gamma rays, 184

syringe carrier and egg clamp for chick embryo inoculation, 47

transfers in paper chromatography, 19

volumetric flasks and microcell filling adapter for Perkin-Elmer infrared spectrophotometer, 306

Apple endosperm, auxin identification, 418

Aquometry and water content of blood, 276

Araeidae *see* Crustacea

Archibald, R. T., 390

Arctic Bibliography, 692

Aronoff, S., 302

Arrhythmia, cardiac, induced by epinephrine, 752

Artery ligation, choroidal, 193

Ascorbic acid, gastric, in gastritis guinea pig, 557

Aserinsky, Eugene, 273

Astronomy, fireball procession of 1913, 725

flying saucers, 124, 144

highlights for 1953, 738

Mount Wrangell Observatory, 420

Atmospheric shells, terminology, 283

Atomic bombs, effect of exposure to, on pregnancy termination, 537

Atropine, failure to produce pupillary dilatation, 624

Audio-visual aid center, medical, 754

Audrieth, L. F., 192

Aureomycin, colorimetric determination in aqueous solution, 628

effect of cortisone, 549

producing cardiac arrhythmia, 752

Autonomic nervous system *see* Eye motility

Auxin and temperatures in floral initiation, 215

induced water uptake, maleic hydrazide and, 193

of apple endosperm, 418

stimulation of rubidium absorption, 243

synergism and antagonism by antibiotics, 357

Avena test, holder for seedlings, 214

Avian gonads, darkness and light in activation, 351

Avoidance conditioning with brief shock, 157

B

Bach, I. M. N., 3 (7/31)

Bacharach, A. L., 448

Bachman, G. Bryant, 283

Bacteria, cell division in *A. agile*, 34

effect of magnesium on cell division, 607

glycogen identification by spectrophotometry, 141

luminous, riboflavin phosphate for, 385

sex in, 169

streptomycin and oxygen uptake of, 73

symbiotes, 199, 202

tube method for anaerobic incubation, 144

See also *Salmonella*

Bacteriology, punch cards for abstracts of papers, 360

Bair, Thomas D., 333

Baker, Edward W., 633

Baker, K. F., 186

Baker, P. S., 778

Bald, J. G., 186

Bamberger, Joseph W., 252

Barium carbonate-C¹⁴, preparation of C¹⁴-cyanide from, 719

Barker, W. G., 384

Barnett, H. L., 548

Barnyard grass, 693

Barrier phenomena, two, 311

Basler, Eddie, Jr., 529

Battery additive AD-X2, report of National Academy of Sciences committee, 683

Baumann, Emil J., 307

Bausch & Lomb optical research, 465

Bean plants and MOPA, 518

Bean, Russell K., 484

Beard, Marion F., 307

Beattie, J. W., 300

Beccari, E., 249

Beck-Miles infrared theory of olfaction, 358

Beckel, W. E., 279

Beecher, Henry K., 322

Beetle separator, 324

Beetles, quinones from, 324

Behavior, avoidance conditioning, 157

Behnke, John A., 3 (10/9)

Bélanger, Leonard F., 520

Belinfante, F. J., 393

Belli, J. A., 135

Benesch, Reinhold, 447

Benesch, Ruth E., 447

Benjamin, H. B., 160

Bennett, John W., 221

p-Benzquinone *see* Quinones

Beretta, A., 249

Berger, Carl, 521

Bernhard, Adolph, 114

Bernstein, Marianne E., 448

Berry, L. Joe, 140

Bersworth, F. C., 280

Beryl, laboratory pilot plant for recovery, 15

Beta ice, existence, 521

Beta rays, weak, scintillation counter for measurement, 493

Bhattacharya, K. L., 651

Bile duct tumors, 80

Bile salts, effect on oleic acid absorption, 723

Binder, R. C., 118

Binhammer, Robert T., 654

Biology, challenge of, 33

dubious experimental procedures, 604

Bird, O. D., 657

Birke, G., 751

Bishop, P. O., 241

Black, Donald M., 308

Bladder *see* Urinary calculi

Blau, Monte, 1

Bleuler, Ernst, 534

Bloch, Felix, 425

Blood, antigens and erythrocyte mosaicism, 621

circulation, adrenal gland and, 248

clotting, protamine, chylomicrons and, 46

species specificity of fibrinogen, 515

time in chick, 379

erythrocytes, assay of life span, 72

Heinz body production by metabolism, 631

flow, electronic hemodrometer, 82

group O and hemolytic anemia, 183

groups, Rh agglutinogen, 721

hematopoietic system in cancer, 161

hemoglobin, nomenclature, 116

normal and sickle cell, 631

leucocyte count, rat, effects of body and tail heating, 20

immune-adherence phenomenon, 733

migration and plasma factor, 79

mast cells, histamine in, 603

pH in human fetus, 29

phagocytes and reticuloendothelial system, 353

plasma, and leucocyte migration, 79

effect of noxious stimulus on anti-diuretic activity, 602

electrophoresis of avian serum proteins, 86

lipoproteins, effects of intravenous heparin in hypercholesterolemia xanthomatosis and hyperlipemia, 653

micro determination of isoniazids, 142

proteins, 558

preservation, life span of red blood cells, 72

pressure, andromedotoxin from rhododendron leaves for lowering of, 543

Rh agglutinogen, 721

samples from intra-arterial catheter, collecting device for, 390

jugular technique for repeated bleeding of small animals, 563

serodiagnosis of syphilis, 55

serum, cancer and ion exchange effect on alkaline phosphatase of, 114

schizophrenic, stress and toxicity, 409

solar radiation component of, 255

transfusion, equilibrium between circulating and extravascular plasma proteins, 301

whole, effect on dogs exposed to ionization, 111

typing, MNS data and gene frequencies, 756

vitamin A, effect of strenuous physical activity, 629

volume determination with radioactive human serum albumen, 595

Bloods, animal, for serology, collecting expeditions and salvage, 47

Blouch, Roger, M., 56

Blue comb in chickens, weather influence and, 601

Blum, Harold F., 197

Body and tail heating, effects on rat leukocyte count, 20

Body size relationship in radiation sickness, x-ray dose and, 271

Body temperature, low, and metabolic responses, 100

Bomke, Hans, 255

Bone citogenase and parathyroid, 139

Bonnet, David D., 44

Book cataloguing, 390

Book reviews

- Advances in Cancer Research*, Jesse P. Greenstein and Alexander Haddow, Eds., 58
- Aller, Lawrence H., Astrophysics*, 392
- Applied Inorganic Analysis*, revised by G. E. F. Lundell, H. A. Bright, and J. I. Hoffman, 334
- Appraisal of Anthropology Today*, An, Sol Tax et al., Eds., 221
- Astrophysics*, Lawrence H. Aller, 392
- Atlas of Medical Mycology*, Emma Sadler Moss and Albert Louis McQuown, 423
- Ball, Eric G., Ed., Biochemical Preparations*, 700
- Batchelor, G. K., The Theory of Homogeneous Turbulence*, 118
- Beals, Ralph L., and Hoijer, Harry, An Introduction to Anthropology*, 757
- Biochemical Preparations*, Eric G. Ball, Ed., 700
- Biology of Paramecium*, The, Ralph Wichterman, 727
- Brautlecht, Charles A. Starch*, 565
- Browning, Ethel, Toxicity of Industrial Organic Solvents*, 786
- Chemical Process Machinery*, E. Raymond Riegel, 495
- Chemistry of Synthetic Dyes, The*, K. Venkataraman, 757
- Clinical Allergy*, French K. Hansel, 89
- Cochran, William G., Sampling Technique*, 523
- Cold Spring Harbor Symposia on Quantitative Biology: The Neuron*, 366
- Cole, Lawrence E., Human Behavior*, 605
- Committee on Colorimetry of the Optical Society of America, The Science of Color*, 496
- Conway, B. E., Electrochemical Data*, 758
- Cook, G. B., and Duncan, J. F., Modern Radiochemical Practice*, 494
- Cranwell, Lucy M., New Zealand Pollen Studies*, 422
- Crime Investigation*, Paul L. Kirk, 256
- Daizon, Hugh, and Danielli, J. F., The Permeability of Natural Membranes*, 90
- Deformation and Flow in Biological Systems*, A. Frey-Wyssling, Ed., 24
- Differential and Integral Calculus*, Philip Franklin, 422
- Doob, J. L., Stochastic Processes*, 659
- Duval, Clément, Inorganic Thermogravimetric Analysis*, 660
- Dynamical Oceanography*, J. Proudman, 365
- Ekman, Sven, Zoogeography of the Sea*, 90
- Electrochemical Data*, B. E. Conway, 758
- Esau, Katherine, Plant Anatomy*, 89
- Expédition océanographique Belge dans les Eaux Côtierres Africaines de l'Atlantique Sud*, 727
- Exploration Hydrobiologique du Lac Tanganyika*, 727
- Fatigue and Fracture of Metals*, William M. Murray, Ed., 118
- Finney, D. J., An Introduction to Statistical Science in Agriculture*, 423
- Fletcher, Harvey, Speech and Hearing in Communication*, 495
- Flying Saucers*, Donald H. Menzel, 145
- Franklin, Philip, Differential and Integral Calculus*, 422
- Fresh-water Invertebrates of the United States*, Robert W. Pennekak, 334
- Frey-Wyssling, A., Ed., Deformation and Flow in Biological Systems*, 634
- Fundamentals of Limnology*, Franz Ruttner, 365
- Geldard, Frank A., The Human Senses*, 564
- Gellhorn, Ernst, Physiological Foundations of Neurology and Psychiatry*, 146
- Greenstein, Jesse P., and Haddow, Alexander, Eds., Advances in Cancer Research*, 58
- Grinker, Roy R., Psychosomatic Research*, 700
- Guinier, André, X-Ray Crystallographic Technology*, 757
- Hansel, French K., Clinical Allergy*, 89
- Henry, Norman F. M., and Lonsdale, Kathleen, Eds., International Tables for X-ray Crystallography*, 222
- Hinsie, Leland E., and Shatzky, Jacob, Psychiatric Dictionary*, 565
- Histochemistry*, A. G. Eversen Pearse, 785
- Human Behavior*, Lawrence E. Cole, 605
- Human Senses*, The, Frank A. Geldard, 564
- Industrial Wastes*, Willem Rudolfs, Ed., 422
- Inorganic Thermogravimetric Analysis*, Clément Duval, 660
- International Tables for X-ray Crystallography*, Norman F. M. Henry and Kathleen Lonsdale, Eds., 222
- Introduction to Anthropology*, An, Ralph L. Beals and Harry Hoijer, 757
- Introduction to Organic Chemistry*, Leland A. Underkofer, 283
- Introduction to Statistical Science in Agriculture*, An, D. J. Finney, 423
- Kirk, Paul L., Crime Investigation*, 256
- Lehmann, Gunther, Parktische Arbeitsphysiologie*, 6
- Low Temperature Physics*, F. E. Simon et al., 728
- Lundell, G. E. F., Bright, H. A., and Hoffman, J. I., revisers, Applied Inorganic Analysis*, 334
- McElroy, William D., and Glass, Bentley, Eds., Phosphorus Metabolism*, 523
- Manual of the Chiggers*, A. G. W. Wharton and H. S. Fuller, 284
- Marine Fouling and Its Prevention*, 257
- Mayr, Ernst, Linsley, E. Gorton, and Usinger, Robert L., Methods and Principles of Systematic Zoology*, 117
- Measurement Techniques in Mechanical Engineering*, R. J. Sweeney, 785
- Menzel, Donald H., Flying Saucers*, 145
- Methods and Principles of Systematic Zoology*, Ernst Mayr, E.

Gorton Linsley, and Robert L. Usinger, 117

Modern Radiochemical Practice, G. B. Cook and J. F. Duncan, 494

Moss, Emma Sadler, and McQuown, Albert Louis, *Atlas of Medical Mycology*, 423

Murray, William M., Ed., *Fatigue and Fracture of Metals*, 118

Neuron, The, Cold Spring Harbor Symposium on Quantitative Biology, 366

New Zealand Pollen Studies, Lucy M. Cranwell, 422

Pearse, A. G. Everson, *Histochemistry*, 785

Pennak, Robert W., *Fresh-water Invertebrates of the United States*, 334

Permeability of Natural Membranes, The, Hugh Davison and J. F. Danielli, 90

Phosphorus Metabolism, William D. McElroy and Bentley Glass, Eds., 523

Physiological Foundations of Neurology and Psychiatry, Ernst Gellhorn, 146

Plant Anatomy, Katherine Esau, 89

Praktische Arbeitsphysiologie, Gunther Lehmann, 605

Proceedings of the International Congress on Analytical Chemistry, Oxford, England, September 4-9, 1952, 223

Proudman, J., *Dynamical Oceanography*, 365

Psychiatric Dictionary, Leland E. Hinsie and Jacob Shatzky, 565

Psychosomatic Research, Roy R. Grinker, 700

Record of the Rocks, Horace G. Richards, 60

Richards, Horace G., *Record of the Rocks*, 60

Riegel, E. Raymond, *Chemical Process Machinery*, 495

Rudolfs, Willem, Ed., *Industrial Wastes*, 422

Ruttner, Franz, *Fundamentals of Limnology*, 365

Sampling Technique, William G. Cochran, 523

Schrödinger, Erwin, *Science and Humanism*, 59

Science of Color, The, Committee on Colorimetry of the Optical Society of America, 496

Science and Humanism, Erwin Schrödinger, 59

Simon, F. E., et al., *Low Temperature Physics*, 728

Sophian, L. H., Piper, D. L., and Schneller, G. H., *The Sulfapyrimidines*, 633

Speech and Hearing in Communication, Harvey Fletcher, 495

Starch, Charles A. Brautlecht, 565

Stochastic Processes, J. L. Doob, Branchiopods, egg hatching, 362

Bread starch, changes in, 18

Breidenbach, A. W., 557

Brewer, R., 537

Brody, Gerald, 720

Bromoacetate, 1,4-cyclohexanediol bis-, 278

Bromosulfalein, 256

Bronk, Detlev W., to presidency of Rockefeller Institute, 235

Brown, Herbert C., 370

Brown, Paul K., 505

Brown, W. D., 46

Brown, W. G., 522

Brown, W. M. Court, 271

Brožek, Josef, 605

Brucellae, activity of *micoina* on, compared with that of *Terramycin*, 413

Tax, Sol, et al., Eds., *An Appraisal of Anthropology Today*, 221

Theory of Homogeneous Turbulence, The, G. K. Batchelor, 118

Toxicity of Industrial Organic Solvents, Ethel Browning, 786

Underkofer, Leland A., *Introduction to Organic Chemistry*, 283

Untersuchungen über die Tiergemeinschaften des Bodens, Karl Strenzke, 633

Venkataraman, K., *The Chemistry of Synthetic Dyes*, 757

Visceral Circulation, G. E. W. Wolstenholme, Ed., 633

Wagner, Romeo B., and Zook, Harry D., *Synthetic Organic Chemistry*, 392

Wharton, G. W., and Fuller, H. S., *A Manual of the Chiggers*, 284

Wichterman, Ralph, *The Biology of Paramecium*, 727

Wilson, A. J. C., Gen. Ed., *Structure Reports for 1949*, 391

Wise, Louis E., and Jahn, Edwin C., Eds., *Wood Chemistry*, 257

Wolstenholme, G. E. W., Ed., *Visceral Circulation*, 633

Wood Chemistry, Louis E. Wise and Edwin C. Jahn, Eds., 257

X-Ray Crystallographic Technology, André Guinier, 757

Zoogeography of the Sea, Sven Ekman, 90

Books for Israel, 116

Bordiner, Robert H., 141

Boron, increased translocation of plant growth modifying substances, 354

Bose, A., 651

Botany, fungi preparation for class study, 331

Bovard, Everett W., Jr., 598

Bovine serum albumin and zinc binding, 167

Bowen, Lois G., 400

Box, Harold C., 72

Boyd, William C., 756

Boyden, Alan, 57

Boyle, Joyce B., 19

Brain cortex, acid-soluble nitrogen in, during stimulation, 655

Brown, Anton Fr., 3 (7/17)

Buck, John, 3 (12/25), 768

Burdette, Walter J., 196

Bureau of Standards see National Bureau of Standards

Burma, D. P., 694

Burnett, William T., Jr., 555

Burroughs, Wise, 164

Burt, Wayne V., 386

Burton, K., 711

Byerly, T. C., 3 (11/6)

C

Cadle, R. D., 490

Cady, Gilbert H., 315

Calcium ion, 103

Caldei, urinary, zinc phosphate as constituent, 217

Caldecott, R. S., 344

Caley, Earle R., 749

Callaway, Enoch, III, 700

Calomel half cells and measurement of Donnan potentials, 603

Calorimetry conference, University of Chicago, 710

Camel, research on by Knut and Bodil Schmidt-Nielsen, 441

Camp Detrick, contract to Mathieson Chemical Corporation, 584

Campagne, E. E., 633

Campbell, Frank L., 643

Cancer, hematopoietic system, effects of radiation, nitrogen mustard, and triethylene melamine, 161

ion exchange effect on alkaline phosphatase of serum and, 114

mammary, estrogen excretion and adrenalectomy, 21

patients, irradiated, response to *V. metschnikovii*, 442

somatic mutation hypothesis, 196, 197

See also Tissue; Tumors

Carbohydrate components of reticular fibers, 614

metabolism and phosphorylation of 3-methylglucose, 253

Carbomyein, colorimetric determination in aqueous solution, 628

Carbon dioxide-water mixtures, reaction in electric arc, 43

Carbon-14 labeled DDT, synthesis, 45

Carbon measurements *see* Radiocarbon

Carbonic acid derivatives of hydrazine and albinism, 192

Carboxylic acids, 370

Cardiovascular system, adrenal gland and circulatory distress, 248

Cardon, P. V., 3 (12/18)

Carlsbad Caverns, fossil deposits, 308

Carnoy fixation, 161

Carotene, effect of strenuous physical activity on, 629

Cat, bilateral reversal of internal organs, 333

brain cortex, acid-soluble nitrogen in, during stimulation, 655

Catheter, intra-arterial, device for collecting blood samples from, 390

Catholic views on genetics, 561

Cell, division in *A. agile*, 34

in bacteria, effect of magnesium, 607

localization of nucleic acid by autoradiographs, 555

movement and ATP, 553

particulars, refractometry with eyecylindrical lens microscope, 489

preparation, homogeneous, from soybean leaves, 302

volume and density, tetrakaidecahedron and computation of, 599

Centrifugation apparatus for washing of particulate matter in controlled atmosphere, 158

preparation of rat liver mitochondria free of microsomes, 136

Cereal grain infestation, aural detection, 163

Cerebral humoral mechanisms, indications of, 367

Chaberek, Stanley, Jr., 280

Chakraborty, K. P., 651

Chalkley, Donald Thomas, 599

Chang, M. C., 550

Chapanis, A., 496

Chapman, Carleton B., 390

Chaucer, Howard, 219

Chauveau's hemodrometer, 82

Chelating agents, effect on radioisotopes in body, 24

for trivalent iron, 280

Chemistry, Hammett's equations, 246

Cheng, Edmund, 164

Chernoff, Amoz I., 116

Chesapeake Bay waters, light extinction, 386

Chesney, Alan M., retirement as dean of Johns Hopkins medical faculty, 176

Chicken, blood clotting time, 379

embryo, syringe carrier for inoculation, 47

thymus gland and leucovorin, 720

weather influence and blue comb, 601

Chlordane vapors, toxicity, 213

Chlorophyll molecule as oxidation-reduction enzyme, 696

Chlorophyllins, polarographic investigation, 444

Choline, and central nervous system, 367

stimulation of reticuloendothelial system, 353

Choroidal artery ligation for involuntary movements, 193

Chow, Bacon F., 582

Christensen, Eric, 697

Christian, John E., 444

Chromatography, paper, making transfers, 19

spotting apparatus, 56

Chromosomes, American rodents, 630

interchanges and species delimitation in *Oenothera*, 557

Chu, Ju Chin, 495

Chylomicrons and oleic acid absorption, 723

protamine, and clot formation, 46

Cilia of pharyngeal mucosa, ATP and, 553

Ciliates and flagellates, slide preparation of, 31

Citrogenase, bone, and parathyroid, 139

Civil liberties of scientists, 449

Clark, Louise Stone, 73

Clarke, Hans T., 711

Claviceps purpurea, tryptophan synthesis, 132

Clinton, R. O., 138

Clostridium welchii, effects of magnesium on cell division, 607

Coal balls, floral-faunal associations, 240

Cobalt-60, irradiation and trichina larvae, 75

tolerance of plants to gamma radiation from, 697

Coles, L., Jr., 131

Cohn, Maurice L., 297

Collier, Albert, 329

Collins, Vincent P., 161

Colloids, gold, intravenous administration, 631

radioactive, safety limits, 282

Comar, C. L., 555

Common, R. H., 86

Commoner, Barry, 529

Communism and German universities, 121

See also Soviet

Compound F, epi-F and glycogenic property, 220

Comroe, Julius H., Jr., 3 (10/2)

Conditioning, avoidance, 157

Conformity to social norms, 598

Conjugation cells, formation and behavior in *Azotobacter agile*, 34

Contaminant alkali salts, concentration in ground level air, 612

Cook, Robert C., 3 (11/27)

Cooper, Irving S., 193

Cooperative Research Foundation for exchange of information, knowledge, and skills, 95

Copenhagen radiocarbon measurements, 6

Copper occlusion by soil materials, 296

Corey, R. A., 28

Corley, Ralph C., 700

Corn, infection with *Physoderma* disease, 693

See also Teosinte

Corns, W. G., 281

Correll, D. S., 329

Cortex, acid-soluble nitrogen in, during stimulation, 655

activity *see also* Eye motility

Corticosterone, 17-hydroxy-, epi-F and glycogenic property, 220

Cortisone, effect on therapeutic efficacy of antibiotics, 549

modification of teratogenic action, 625

Coryell, Charles D., 509

Coryphaeus of science, 32

Cosmic cloud hypothesis of solar system origin, 195

Cosmic radiation, international conference at Bagneres de Bigorre, 701

Cotson, Sydney, 516

Cotter, Gladys J., 552

Cotton, 2,4-D herbicides and, 782

Cotton, W. K., 111

Coulombe, Jane, 385

Cow, excretion of heptachlor epoxide in milk, 383

Crustacea, decapod, serum protein levels, 295

Cryptococcus neoformans in mice, treatment with stilbamidine, 31

Csaky, T. Z., 253

Culture experiments and phenylalanine, 250

Curl, Herbert, 420

Currier, L. W., 580

Curtis, H. J., 3 (8/14)

Cutaneous receptors *see* Skin

Cyanide, C¹⁴, preparation from barium carbonate-C¹⁴, 719

1,4-Cyclohexanediol bis (bromoacetate), fungistatic action, 278

Cyprinid fish, new articular facet, 357

Cysteine and thiamine derivative, 109

D

2,4-D and increased translocation of plant growth modifying substances, 354

and phosphorus metabolism, 627

effect of wind-drift on trees, 74

herbicides, cron threat, 782

Danishefsky, I., 305, 783

Dao, Thomas L-Y., 21

Darkness and light in avian gonad activation, 351

Das Gupta, N. N., 651

Data, word usage, 361
 Daunt, J. G., 728
 Davidow, Bernard, 383
 Davidson, Leon, 144
 Davis, Bernard D., 251
 Davis, F. E., 276
 Davis, R., 241
 Davison, M. Moira, 247
 Dawson, E. Yale, 3 (7/3)
 DDT, radioactive, synthesis with carbon-14, 45
 Deaths, 42, 180, 270, 350, 514, 649
 Decapod Crustacea, serum protein levels, 295
 Deep-freezing and recovery of heart-beat, 550
 Deevy, Edward S., Jr., 1
 Defatiguing agents, 367
 Defecation, emotional, in rat, 352
 Dehydrogenase, succinic, tissue localization of mercurial inhibition, 320
 de la Huerga, J., 80
 de Mello, Milton Thiago, 413
 De Ment, Jack, 117
 Dengue virus, treatment with protamine sulfate, 255
 Denmark, radiocarbon dating, 6, 9
 Deoxyribonucleic acid, bacterial cell division, 607
 fractionation method, 181
 Dermatitis, schistosome, and species of *Trichobilharzia*, 650
 Derow, Matthew A., 247
 Design research vs. free research, 91
 See also Research planning
 Desoxyribonucleic acid see Deoxyribonucleic acid
 de Terra, Helmuth, 748
 De Vries, Thos., 660
 Deyrup, Ingrith J., 553
 Diamond, Louis K., 721
 Diaryldisulfides, thermochromism, 411
 Dicarboxylic acids, hydrogen bonding and ionization, 370
 Dickerson, Gordon E., 423
Dictyostelium discoideum, amoebae tracks in cultures of, 597
 Diet, dietary choices of rats occasioned by swimming, 780
 Diethyl 2-chlorovinyl phosphate, pesticide, 28
 Dinoflagellate bloom, Ti and Zr in, 329
 Dioscorea, alkaloids in, 329
Diplococcus pneumoniae, 733
 Diptera: Hippoboscidae, oöcyt-like bodies on midgut, 199
 Disinfectants, phenolic, inactivating medium, 274
 Diuresis see Antidiuretic activity
 Dixon, T. F., 139
 Dobkin, J., 655
 Dobzhansky, Theodosius, 561
 Dogs, exposed to ionization, effect of whole blood transfusion, 111
 metabolism and low body temperature, 100
 Dondero, Norman C., 34
 Donnan potentials, calomel half cells and measurement of, 603
 Donnay, Gabrielle, 222
 Donnay, J. D. H., 222
 Dorman, S. C., 28
 Dosimeter, small volume, for x-rays and gamma rays, 184
 Dowben, Robert M., 22
 Drasher, Marion L., 181
 Dreger, Ralph Mason, 594
Drosophila, failure of mercaptoethylamine to protect against mutagenic effects of radiation, 776
 food, inhibition of mold contamination, 388
 intracellular localization of RNA, 555
D. melanogaster, induction of phenocopies by ultraviolet light, 165
 Du Bois height-weight formula, validity for East Indians, 389
 Dugger, W. M., Jr., 354
 Duncan, F. R., 778
 Duran-Reynals, F., 93
 Dust particles, collecting, mounting, and sectioning, 490
E
 Ear, inner, autoradiographic detection of S³⁵, 520
 Easterday, O. D., 306
Echinochloa crusgalli (L.), 693
 Echo-sounding and observation of daily movements of fishes, 321
Editorials
 American Association of Physical Anthropologists, 3 (9/25)
 American Institute of Chemical Engineers, 3 (11/20)
 American Society of Agricultural Engineers, 3 (12/4)
 Association of American Medical Colleges, teaching institutes, 3 (10/2)
 British Association for the Advancement of Science, 3 (10/30)
 Brookhaven biology building and "gamma field" 3 (8/14)
 Conference on steroid determination, 3 (7/24)
 Current personnel selection procedures, 3 (8/7)
 Electronic instrumentation and nucleonics in medicine, 3 (10/16)
 Food and Agriculture Organization of the United Nations, 3 (12/18)
 14th International Congress of Zoology, 3 (7/17)
Handbook of Biological Data, 3 (11/6)
 Instrument and the spirit, 3 (10/23)
 National Register of Scientific and Technical Personnel, 3 (9/11)
 XIXth International Physiological Congress, 3 (8/21)
 Oceanographic Institute of Nhatrang, Viet Nam, 3 (7/3)
 Physical Society (London), 3 (9/4)
 Population Reference Bureau, 3 (11/27)
 Research in human identification, 3 (8/28)
 Science and reservists, 3 (9/18)
 Society of General Physiologists, 3 (12/25)
 Society for Social Responsibility in Science, 3 (12/11)
 Southern California Academy of Sciences, 3 (11/13)
 Survey of physiological science, 3 (7/31)
 Television takes education to the people, 3 (10/9)
 Education in shadow of Iron Curtain, 121
 secondary school, 329
 Elrich, William E., 603
 Eidinger, D., 614
 Eirich, F. R., 783
Elections of officers
 American Association of Cereal Chemists, 376
 American Association of Clinical Chemists, 269
 American Association of Immunologists, 513
 American Association of Neuro-pathologists, 319
 American College of Cardiology, 156
 American College of Chest Physicians, 70
 American Dairy Science Association, 348
 American Foundation for Allergic Diseases, 744
 American Home Economics Association, 210
 American Institute of Nutrition, 294
 American Microscopical Society, 775
 American Neurological Association, 70
 American Pharmaceutical Association, 689
 American Physiological Society, 513
 American Phytopathological Society, 407
 American Society of Agronomy, Corn Belt Branch, 348
 American Society of Biological Chemists, 512, 513
 American Society for Engineering Education, 717
 American Society for Experimental Pathology, 210
 American Society for Horticultural Science, 689
 American Society of Limnology and Oceanography, 689
 American Society of Mammalogists, 99
 American Society of Medical Technologists, 270
 American Society of Parasitologists, 689

American Society for Pharmacology and Experimental Therapeutics, 513

American Society of Plant Physiologists, 210

American Society for Study of Arteriosclerosis, 648

American Society for Testing Materials, 319

Association of Official Seed Analysts, 294

Association of Research Directors, 130

Atlantic Estuarine Research Society, 348

Calorimetry Conference, 710

Chemische Gesellschaft in der Deutschen Demokratischen Republik, 690

Council for Old World Archaeology, 592

Illinois State Academy of Science, 156

Illuminating Engineering Society, 179

Instrument Society of America, 477

International Society for Cell Biology, 691

Iowa Academy of Science, 210

Kansas Academy of Sciences, 349, 547

Medical Library Association, 40

Mycological Society of America, 547

National Shellfisheries Association, 547

Nebraska Academy of Sciences, 210

New Orleans Academy of Science, 648

Potato Association of America, 692

Society for Applied Spectroscopy, 319

Society of Correctional Psychologists, 775

Society of General Physiologists, 3 (12/25)

Society of Protozoologists, 513

Society for Study of Social Problems, 441

Southwestern Association of Naturalists, 40

Tennessee Academy of Science, 746

Wisconsin Academy of Sciences, Arts, and Letters, 156

Electrical logic machine, first circuit, 281

Electrical research at GE, 451

Electroconvection apparatus, channel area in, 388

Electrode, micro-, metal-filled, 22

Electron interferometry, 470

Electron physics, Lorentz-Kamerlingh Onnes conference, 393

Electronic techniques for detection of insect-infested grain, 163

Electrophoresis, acid phosphatase in prostatic extracts, 247

filter paper, of avian serum proteins, 86

ElGindi, Ibrahim M., 629

Ely, Ray, 383

Embryo, epithelio-mesenchymal interaction, 52

Emotional defecation in rat, 352

Endicott, Kenneth M., 337

Endothelial system, reticulo-, stimulation with choline, 353

Enzyme activity, 218

in milk clotting, mechanism, 753

inhibition and hydroxylamine, 159

Enzymes, digestion, bread starch susceptibility, 18

hydrolytic, in hyaluronidase preparations, 219

of adenylic acid system, 103

radioactive measurement, 299

removal of oxygen for polarography, 447

Epinephrine and cardiac arrhythmia, 752

See also Adrenaline

Epithelio-mesenchymal interaction in mouse organ rudiments, 52

Eppley, R., 243

Erickson, John R., 595

Erlandson, A. L., Jr., 274

Ershoff, B. H., 20

Erythrocyte mosaicism in pair of sheep twins, 695

Erythromycin, colorimetric determination in aqueous solution, 628

Escherichia coli, autocatalytic growth in accumulation of phenylalanine precursor, 251

effects of magnesium on cell division, 607

phenylalanine accumulation, 250

sex in, 169

streptomycin and oxygen uptake, 73

Estrogen activity of isoflavone derivatives from soybean oil meal, 164

excretion, adrenalectomy in mammary cancer and, 21

Estrogens in commercial animal feeds, 650

Ethionine feeding and hepatic tumors, 80

Ethylenediamine tetraacetic acid and ATP, 218

and lanthanum removal, 24

Etzel, Howard W., 184

European Nuclear Research Center, 99

Evans, E. A., Jr., 711

Evans, Robert L., 256, 558

Evolution, Catholic views, 561

Exercise and blood vitamin A, 629

and dietary choices of rats, 780

Exudate, inflammatory, chemical constitution of, 415

Eye, motility in sleep, 273

pupillary dilatation and atropine, 624

See also Vision

F

epi-F and glycojenic property of compound F, 220

Farner, Donald S., 351

Farquhar, R. M., 486

Fatigue and cerebral humoral mechanisms, 367

Fatty acid absorption and chylomicrons, 723

Faunal-floral associations in coal balls, 240

Favour, Cutting B., 79

Featherstone, R. M., 306

Feinstein, Robert N., 552

Fellowships in medical sciences, subsequent careers of applicants, 400

Fenske, C. S., 329

Ferguson, Frederick P., 633

Ferguson, J. K. W., 112

Fertility in rodents and phosphorylated hesperidin, 212

effect of phosphorylated hesperidin and other flavonoids, 657

Fetal blood, Ph, 29

Fetal lambs, circulatory distress, 248

Feurt, Seldon D., 626

Fibers, reticular, carbohydrate components, 614

Fibrinogen, species specificity revealed by end-group studies, 515

Fick's law in aquatic biology, 254

Field theory, modern, 393

Fields, Russell J., 423

Filter paper electrophoresis see Electrophoresis

Finerty, John C., 654

Fireball procession of 1913, 725

Fischer reagent and measurement of blood water, 276

Fischer, Roland, 409, 784

Fish genus, Cyprinid, new articular facet in upper jaw, 357

Fishes, observations on daily movements, 321

Fisher, Ben, 116, 631

Fisher, H., 379

Fitzhugh, Andrew F., 783

Fixing fluid for plant and animal tissues, 161

Flame photometry, hazard, 494

Flavonoids, effect on fertility in mice, 657

Fletcher, G. H., 442

Floral-faunal associations in American coal balls, 240

Flowering, plant, auxin and temperatures, 215

Flowmeters for unanesthetized animal, 82

Fluorescence, first law of, 117

spectra of adrenaline derivative, 381

Fly-tagging device, 48

Flying saucers, 124, 144

Food, prices in Palo Alto, 362

sterilization, trichina larvae irradiation, 75

Forest stand estimates, biased, due to sample size, 750

Fosberg, F. R., 422
 Fossil deposits in Carlsbad Caverns, 308
 locality, Pleistocene, 748
 Fourman, Victor G., 329
 Fox, H. Herbert, 497, 726
 Fox, Lauretta E., 626
 Fraenkel, G., 304
 Fraser, F. Clarke, 625
 Fraser, Robert, 390
 Freemartins and erythrocyte mosaicism, 695
 Free radicals, α -methylthiyl, 411
 Frog, ATP and ciliated mucosa, 553
 hearts, aureomycin producing cardiac arrhythmia in, 752
 Frost resistance of chemically sprayed parsnips, 281
 Fructomaltose in honeydew, 304
 Fults, Jeas L., 56
 Fumigants, evaluation, 163
 Fungi, frozen, for class study, 331
 nutrition, allithiamine in, 548
 Fungicides, 1,4-cyclohexanedioyl bis(bromoacetate), 278
 Fungus, centrifugation in controlled atmosphere, 158
 diseases, treatment with stilbamidine, 31
 in grass, 693

G

Gabrieli, Elemer R., 282
 Gaines, J. G., 20
 Gallagher, T. J., 780
 Gamma rays, small-volume dosimeter, 184
 García, J., 627
 Garner, Murvel R., 380
 Gas samples, apparatus for analysis, 522
 Gaseous systems *see* Carbon dioxide-water mixtures
 Gastritis induced by eugenol, 557
 Gauch, Hugh G., 354
 Gausman, Harold W., 192
 Geiger, A., 655
 Gellhorn, E., 366
 Gene frequencies, estimation from MNS data, 756
 negative assortative mating and, 600
 General Electric Company, research, 451
 Genetics, animal chromosome numbers, 630
 bacterial, 169
 comment on discussion of, by Pope Pius XII, 561
 genetic effects of irradiation on pregnancy termination, 537
 genetic effects of radiation, mercaptoethylamine and, 776, 777
 human, parental age and sex ratio, 448
 Rh agglutinin, 721
 international conference, Bellagio, 708
 mathematical, gene frequency, 600
 of strain differences, teratogenic action of cortisone, 625
 phenocopies in *Drosophila* by ultraviolet light, 165
 Geniculate body, lateral, bilateral interaction, 241
 Geological time estimation, Denmark, 6, 9
 New Zealand, 1
 German universities, 121
 Germicides *see* Disinfectants
 Germination, seed, and tetrazolium chloride, 77
 Gersh, Isidore, 785
 Gibbons, Anna J., 596
 Giese, Arthur C., 631
 Gilford, S. R., 3 (10/16)
 Gitlin, David, 301
 Gladiolus cormels, tetrazolium test for germination, 186
 Glass, Bentley, 3 (7/10), 3 (10/23), 763
 Glass needles and latex, 364
 Glegg, R. E., 614
 Glover, L. C., 28
 Glucose, 3-methyl-, phosphorylation, 253
 Glucuronic acid *see* Hyaluronic acid
 Glycine, conversion to serine by liver tissue, 330
 Glycogen, identification in bacteria by spectrophotometry, 141
 synthesis by rat kidney slices, 416
 Glycoproteins, 614
 Gold, radioactive, 631
 Goldberg, E., 306
 Goldwasser, Robert, 47
 Gomberg, H. J., 75
 Gonads, avian, darkness and light in activation, 351
 Goodwin, Richard H., 89
 Gordon, Maxwell, 43
 Gott, Cora L., 442
 Gould, S. E., 75
 Government medical research funds, 337
 Govier, Wm. M., 596
 Grain, insect-infested, aural detection, 163
 Granuloma *pejch* technique, 415
 Grass, barnyard, *Physoderma* disease of, 693
 Gravenor, Conrad P., 25
 Gravimetric thermal precipitator, 195
 Gray, Henry E., 304
 Green, J. A., 191
 Greene, H. B., 778
 Gregory, Kenneth F., 360
 Grenell, Robert G., 146
 Griffiths, William J., Jr., 780
 Grimming, P., 379
 Grobstein, Clifford, 52
 Gross, Bertram, 44
 Gross, Marsha S., 1
 Gross, Milton, 218
 Grossman, Charles M., 330
 Groupé, Vincent, 187
 Growth, anaerobic, tube method, 144
 autocatalytic, accumulation of phenylalanine precursor, 250, 251
 phenylalanine accumulation by *E. coli* mutant, 250
 cell *see* *T. pyrrhogaster*
 epithelio-mesenchymal interaction, 52
See also Cancer, Plant growth, Tumor
 Guernsey, Frances S., 215
 Guinea pigs, normal and scorbutic, and cortical cellular metabolism, 133
 Guy, A. G., 118
Gymnodinium brevis bloom, Ti and Zr in, 329
 György, Paul, 781

H

Hale, W. H., 164
 Hall, W. E., 28
 Hammett's equation, extensions, 246
 Hand preference in rhesus monkey, 622
 Harmon, Francis L., 719
 Harris, John W., 116
 Harris, M. Rachel, 309
 Hart, Helen, 402
 Hart, Hiram, 24
 Harte, Robert A., 582
 Harvey, Harriet, 290
 Harvey, Paul A., 752
 Hasler, Arthur D., 321
 Hastings, J. W., 385
 Hauschildt, James D., 330
 Hayashi, Yujiro, 84
 Headley, William H., 31
 Heart, aureomycin producing cardiac arrhythmia in, 752
 beat resumption in rabbit embryo after exposure to low temperatures, 550
 Heating, body and tail, effects on rat leukocyte count, 20
 Hecht, Adolph, 557
 Hedgpeth, Joel W., 257, 365, 727
 Height-weight formula for measurement of East Indians, 389
 Heinicke, R. M., 753
 Heiniz bodies, production in erythrocytes by metabisulfite, 631
 Heller, John H., 353
 Hematopoietic system in cancer, effects of radiation, nitrogen mustard, and triethylene melamine, 161
 Hemodrometer, Chauveau's, 82
 Hemoglobin *see* Blood hemoglobin
 Hemolytic anemia and blood group O, 183
 Henderson, Earl W., 604
 Henderson, W. J., 300
 Heparin, effects on plasma lipoproteins in hypercholesterolemia xanthomatosis and hyperlipidemia, 653
 in tissue mast cells, 332
 Hepatic *see* Liver
 Heptachlor epoxide in milk, 383
 Herbicides, 2,4-D, crop threat, 782
 effects of wind-drift on trees, 74

Hernández-Medina, E., 74
 Hesperidin, phosphorylated, and rodent fertility, 212
 and other flavonoids, effect on fertility, 657
 Heubner, Wolfgang O. L., 121
 Hexachlorophene, inactivating medium, 274
 Hexokinase, phosphorylation of 3-methylglucose, 253
 Higinbotham, N., 243
 Hinds, David B., 442
 Hiroshima, effect of exposure to atomic bombs on pregnancy termination in, 537
 Histamine in tissue mast cells, 332, 603
 Hoge, A. R., 410
 Hogeboom, George H., 419
 Holder for seedlings in *Avena* test, 214
 Homberger, F., 272
 Homeostasis and dietary choices in rat, 780
 Honeydew, trisaccharide in, 304
 Hoover, J. R. E., 781
 Hope chest research funds, 417
 Horava, A., 415
 Horecker, B. L., 152
 Hormones, adrenal, 133
 weight and body weight, 30
 antiidiuretic, 602
 estrogen, activity of isoflavone derivatives, 164
 estrogenic, in animal feeds, 650
 excretion in adrenalectomy, 21
 nomenclatural revision for triterpenoid steroids, 754
 parathyroid, 139
 pituitary, synthetic, oxytocin, 543
 steroid, 103
 chemical transformation by adrenal perfusion, 101
 epi-F and glycogenic property of compound F, 220
 metabolism of Reichstein's substance S, 751
 Horvath, Steven M., 100
 Horwitt, Benjamin N., 220
 Hotta, Susumu, 255
 Howard, Hildegard, 3 (11/13)
 Howes, Bennett G., 596
 Howlett, Freeman S., 617
 Hughes, A. L., 277
 Human being, effect of noxious stimulus on antiidiuretic activity of blood, 602
 effect of strenuous physical activity on blood vitamin A, 629
 intragastric temperatures in hunger, 160
 Human hemoglobin, nomenclature for, 116
 Hummel, J. P., 306
 Hummeler, Klaus, 781
 Hunger and intragastric temperature variations in man, 160
 Hunt, M. L., 183
 Hurley, Nancy A., 653

Hutchins, Ross E., 782
 Hutt, B. K., 100
 Hyaluronic acid component, inactivation of vaccinia virus, 93
 Hyaluronidase preparations, hydrolytic enzymes in, 219
 Hybrids in *Oenothera*, 557
 Hydrazine derivatives and albinism, 192
 Hydrogen, bonding in ionization of dicarboxylic acids, 370
 ion, changes in concentration during precipitation reactions between neutral salt solutions, 749
 17-Hydroxycorticosterone, epi-F and glycogenic property, 220
 5-Hydroxykynurenine, synthesis, 699
 Hydroxylamine, inhibitory action on biological oxidations, 159
 Hyman, George A., 161
 Hyperlipemia and hypercholesterolemia xanthomatosis, effects of heparin on plasma lipoproteins in, 653
 Hypophysectomy, chemical constitution of inflammatory exudate, 415
 in parabiosis, relation to post-irradiation protection, 654

I

Ice, beta, 521
 Immune-adherence phenomenon, 733
 Indian Association for Cultivation of Science, anniversary of Raman effect, 32
 Indian wheats, photoperiodic response, 445
 Indians, East, height-weight formula applicability, 389
 Indoleacetic acid (IAA) and nucleic acid content and growth of tissue, 443
 ethyl ester in apple endosperm, 418
 Induction, nuclear, principle of, 425
 Industry and nuclear power, 729
 Inflammation, chemical constitution of exudate in normal and hypophysectomized rats, 415
 Influenza virus, growth of, 781
 Infrared spectrophotometry and glycogen identification, 141
 Infrared theory of olfaction, 358
 Ingle, L., 213
 Inoculation of chick embryo, syringe carrier for, 47
 Insect honeydew, fructomaltose in, 304
 Insecticides, heptachlor epoxide in milk, 383
 toxicity of chlordane vapors, 213
 Insects, contact fumigants, 28
 fly-tagging device, 48
 grain infesting, aural detection of, 163
 metabolism of niacin, 654
 quinones from flour beetles, 324
 symbiotes of, 199, 202
 Instrumentation, basic, at National Bureau of Standards, 457

science of instrumentology, 461
 Intelligence tests, different I.Q.'s for same individual on, 594
 Interferometry, electron, 470
 International congresses, role of research committee, 361
 International Critical Tables, olfactory thresholds, 333
 Intestinal mucosa, phosphorylation of 3-methylglucose by hexokinase, 253
 Intragastric *see* Stomach
 Involuntary movements, artery ligation and, 193
 Iodine, protein in milk, 749
 uptake by thyroids of rats given antithyroid compounds, 698
¹³¹I tagged human albumen, blood volume determination with, 595
 uptake by rat thyroid, phenothiazine and, 191
 Ion exchange effect on alkaline phosphatase of serum and cancer, 114
 Ionizing radiation, 111
 Ionosphere, scatter sounding experiments, 759
 I.Q. *see* Intelligence tests
 Iron Curtain, education in shadow of, 121
 Iron, trivalent, chelating agents, 280
 Iron (III)-phenol complex, 327
 Irradiation, and phenocopies in *Drosophila*, 165
 and pregnancy termination in Japan, 537
⁶⁰Co and trichina larvae, 75
 irradiated rats, survival in parabiosis, 654
 response of cancer patients to *V. metschnikovii*, 442
See also Radiation; X-radiation
 Irving, Stanley D., 351
 Irwin, Margaret Constance, 307
 Isoxyclic compounds in tuberculosis, 497, 726
 Isoflavone derivatives, estrogenic activity, 164
 Isomers, optical, odors of, 358
 Isoniazida, micro-determination in blood, 142
 variants of tubercle bacilli, pathogenicity, 297
 Isotopes, lead, for age determination, 486
See also Radioisotopes
 Israel, books for, 116
 Itano, Harvey A., 116
 Iversen, Johs., 9
 Iyengar, M. R. S., 357

J-K

Jackel, S. S., 18
 Jackson, Kenneth L., 136
 Jacobs, Morris B., 142
 Jaffé, H. H., 246
 James, William H., 629
 Janeway, Charles A., 301
 Jaw, upper, of Cyprinid fish, new articular facet, 357

Jawetz, Ernest, 549
 Jeanes, J. K., 719
 Jensen, Jens A., 45
 Jones, Alan Richardson, 721
 Jones, Burton W., 234
 Jones, F. Nowell, 333
 Jones, Howard W., Jr., 103
 Jones, Walter H., 387
 Joseph, H. M., 475
 Josephson, Donald V., 211
Journals, new
Archivos Médicos de Cuba, 441
Asa Gray Bulletin, 441
Australian Journal of Biological Sciences, 441
Australian Journal of Botany, 441
Bulletin, Chinese Association for the Advancement of Science, 593
Journal of Embryology and Experimental Morphology, 441
Journal of Indian Society of Soil Science, 441
Journal of Protozoology, 692
Nagoya Medical Journal, 441
Norelco Reporter, 441
Plant Science News, 746
Records of Oceanographic Works in Japan, 441
Research Film 441
Revista de Biología Tropical, 441
Science Reports of the Saitama University, The, 441
Vox Sanguinis, 441
Jugular technique for repeated bleeding of small animals, 563

Kaiser, Irwin H., 29
 Kalter, Harold, 625
 Kamel, Mohamed, 411
 Kamrin, Benjamin B., 623
 Kaplan, Eugene, 116
 Kaplan, L., 234
 Kaplan, Louis, 522
 Kaplan, Nathan O., 712
 Kaplan, W. D., 776, 777
 Kassel, Robert, 563
 Katagiri, Masayuki, 250
 Kato, Masaru, 654
 Kelly, Harry C., 3 (9/11)
 Kelner, Albert, 165
 Kendall's compound F, 220
 Kent, Martha J., 214
 Kenyon, Keith, 276
 Ketchel, Melvin M., 79
 17-Ketosteroids, metabolism, 751
 Kidd, Charles V., 147
 Kidney, excretion and chelating agents, 24
 mercurial inhibition of succinic dehydrogenase, 320
 slices, rat, and glycogen synthesis, 416
 Kipnis, F., 754
 Kirk, Jack, 276
 Kirwan, William E., 256
 Kisielecki, Walter E., 102
 Kitamura, S., 537
 Kleitman, Nathaniel, 273
 Klock, John W., 48

Kodani, M., 537
 Koeppe, Roger E., 698
 Konopinski, Emil J., 285
 Korenchevsky, V., 361
 Korff, Serge A., 420
 Kovasznay, L. S. G., 475
 Kraintz, L., 191
 Krebs, Hans Adolf, Nobel prize winner, 711
 Kuhn, Richard, 781
Kynurenone, 5-hydroxy-, synthesis, 690

L
Laboratory animals, starvation and responsiveness, 631
Lactobacillus bifidus and virus multiplication, 781
 Ladisch, Rolf K., 324
 Lambs, fetal, circulatory distress, 248
 La Mer, Victor K., 516
 Lane, L. L., 695
 Language and medical writing, 58
Lanthanum-140 excretion from body, 24
 Lark-Horovitz, Karl, 59, 391
 LaRoea, Joseph P., 278
 Larabee, Eric, and *Worlds in Collision*, 167
 Laskowski, S. C., 138
 Laszlo, Daniel, 24
Latex *see* Rubber
 Latimer, H., 243
 Lawendel, J. S., 249
 Lawrence, C. A., 274
 Lazo-Wasem, E. A., 650
Lead isotope method of age determination, 486
 Leake, Cheneey D., 3 (10/30)
 Leblond, C. P., 614
 Lebo, Dell, 352
 Lederberg, Joshua, 169
 Lemmon, Richard M., 494
 Leonard, John M., 278
 Leone, Charles A., 295
 Leopold, A. C., 215
Lepidurus kirkii, egg hatching, 362
 Lerner, I. Michael, 708
Leucocyte *see* Blood leucocyte
Leucovorin and thymus gland, 720
 Lever, Walter F., 653
 Levi, Hilde, 6
 Levine, Alvin S., 187
 Levine, Seymour, 141
 Levitan, Seymour, 563
 Levitt, Leonard S., 696
 Lewis, Margaret Reed, 355
 Li, C. P., 107
 Library cataloguer, scientist and, 390
 Light, and avian gonad activation, 351
 extinction by filter passing matter in Chesapeake Bay waters, 386
See also Photoperiodicity
 Lilly, Virgil Greene, 548
Linnaeus, symposium on life and work, Hawaiian Botanical Society, 648
 Lionetti, Fabian, 219
 Lipmann, Fritz, Nobel prize winner, 712
Lipoic acid in vision, 330

Lipoproteins, plasma, effects of heparin in hypercholesterolemia xanthomatosis and hyperlipemia, 653
Liquid scintillator technique, 493
 Lisanti, Vincent, 219
 Lison, Lucien, 382
 Lithium metal, preparation by vacuum distillation, 778
 Liver, homogenates, rat, progesterone and phosphate release rate from ATP, 103
mitochondria and hydroxylamine inhibition, 159
 centrifugal preparation free of microsomes, 136
 tissue, conversion of glycine to serine, 330
 tumors and ethionine feeding, 80
 Livingston, Clark H., 56
 Livingston, Ralph, 61
 Lockhart, William R., 144
 Loeffler, R. Kenneth, 161
 Loewi, Otto, 314
 and cerebral humoral mechanisms, 367
 Logic machine, first circuit, 281
 London, Ivan D., 32
 Lorand, L., 515
 Loustalot, A. J., 627
 Low temperature physics, Lorentz-Kamerlingh Onnes conference, 393
See also Temperature
 Lucia, S. P., 183
 Luek, J. Murray, 362
 Luduena, F. I., 138, 364
Lucinescence, bacterial, riboflavin phosphate for, 385
Lymphoma *see* Tumor
 Lyon, Mary F., 776, 777

M
 McBee, Earl T., 786
 McCollum, E. V., 632
 McCormick, James B., 595
 McCrea, J. F., 93
 McDaniel, Darl H., 370
 McDonald, D. J., 537
 McDonough, E. S., 388
 McElroy, W. D., 385
 McKee, Ralph W., 133
 McKenzie, Lawson M., 227, 764
 McKimley, W. P., 86
 McQue, Bernard, 324
 Macy, Ralph W., 334, 650
 Mader, W. J., 364
 Magnes, J., 655
Magnesium, effect on bacterial cell division, 607
 ion, 103
Magnetism, nuclear, research in, 431
 Mahler, R. F., 271
 Makino, Kataishi, 699
 Makino, Sajiro, 630
Maleic hydrazide and auxin-induced water uptake, 193
 Mallinckrodt, Edward, 277
Malonate and *S. typhimurium* infection, 140

Mamay, S. H., 240
 Mammal skin, effects of x-radiation at different temperatures, 135
 Mammals, adrenal weight and body weight, 30
 Man *see* Human beings
 Mandels, G. R., 158
 Manpower resources, 644
 Manwell, Reginald D., 418
 Mapping, aerial, and ER-55 projector, 484, 492
 Marine, David, 307
 Marine arthropods, serum proteins *see* Crustacea
 Marine sediments, occurrence of colloidal silica, 25
 Marine worms, technique for rearing, 363
 Marrazzi, Amedeo S., 367
 Marsh, Julian B., 416
 Martin, C. P., 364
 Martin, E. J., 112
 Marton, L., 470
 Martorell, L. F., 74
 Mason, H. L., 785
 Mast cells, tissue, and histamine, 332, 603
 Mathematics, Science and, AAAS Cooperative Committee on Teaching of, 527
 Mathieson Chemical Corporation undertakes management of Camp Detrick, 584
 Mating, negative assortative, and gene frequency, 600
 Matsukawa, Taizo, 109, 325
 Matsuoka, Toshiro, 325
 Matzke, Howard A., 623
 Maw, W. A., 86
 Maya, W., 281
 Measurement, devices and instruments, 461
 Mebane, Alexander D., 725
 Medical audio-visual aid center, 754
 Medical research growth and role of Public Health Service research grants, 337
 Medical schools, matching plan for selection of candidates for admission, 646
 ratio of applicants to doctors practising, 688
 Medical sciences, careers of applicants for postdoctoral research fellowships, 400
 Medicine and science, fashions in, 784
Meeting reports
 Abnormal and pathological growth in plants, 344
 American Association of Physics Teachers, 126
 American Chemical Society, national meeting, 541
 American Foundation for Allergic Diseases, 744
 American Institute of Biological Sciences, 643
 American Meteorological Society, 126
 American Physical Society, Division of Fluid Dynamics, 175
 American Society for Horticultural Science, 617
 Arab Science Congr *ss*, 745
 Association of Southeastern Biologists, 12
 Birmingham conference on nuclear physics, 534
 British Association for the Advancement of Science, 3 (10/30)
 Calorimetry Conference, University of Chicago, 710
 Cold Spring Harbor Symposium biological nature of viruses, 66
 Colloquium of College Physicists, 207
 Committee on Vacuum Techniques, 690
 Conference of Industrial Hygiene (Yugoslavia), 546
 Conference on Medium Energy Nuclear Physics, 38
 Conference on "Methods of Steroid Determination in Blood and Urine," 3 (7/24)
 Conference on use of tritium in organic and biological chemistry, 234
 Friends of Pleistocene Glacial Geology, annual field meeting, 580
 Gordon Research Conference on Nuclear Chemistry, 509
 Hawaiian Botanical Society, 648
 Indiana conference on nuclear spectroscopy, 285
 Instrument Society of America, annual conference and exhibit, 477
 International Committee for Coal Petrology, 315
 International Conference of Parapsychological Studies, 402
 International Congress on Cosmic Radiation at Bagnères de Bigorre, 701
 International Congress for Microbiology, 737
 International Hydraulics Convention, 372
 International Union of Chemistry, Commission on Geochemical Localization of the Elements, 440
 Lorentz-Kamelingh Onnes conference on electron physics, 393
 Medical Library Association, 315
 National Conference of Weights and Measures, 266
 Ninth International Congress of Genetics, 708
 comment on discussion of genetics by Pope Pius XII, 561
 Oak Ridge Summer Symposium, topics of modern physics, 479
 Research Conference on Plant Physiology, 718
 Society of American Bacteriologists, 509
 Society of General Physiologists, 768
 Summer Conference on College Biology, 290
 Summer Conference in Collegiate Mathematics, 234
 Symposium on Mechanism of Enzyme Action, 152
 Symposium on Neurosecretion, Naples, Italy, 579
 Symposium on population genetics, 349
 Symposium on role of proteins in ion transport across membranes, 711
 Texas Academy of Science, 775
 Vitamin B₁₂ conference, 582
 World Health Organization, session of the South East Asia Regional Committee, 513
 Meetings, scientific, presentation of papers, 30
 Melhus, I. E., 725
 Mellon, M. G., 223, 334
 Menadione, and blood clotting, 379
 in tuberculosis, 497, 726
 Mercaptoethylamine, failure to protect against mutagenic effects of radiation, 776, 777
 Mercurial inhibition of succinic dehydrogenase, tissue localization, 320
 Merrill, Elizabeth R., 549
 Mesophyll cells, homogeneous preparation, 302
 Metabisulfite, production of Heinz bodies in erythrocytes, 631
 Metabolism, carbohydrate, 253
 cortical cellular, 133
 malonate and Salmonellosis in mice, 140
 of niacin in insects, 654
 phosphorus, 2,4-D and, 627
 protein, 558
 responses of dogs with low body temperature, 100
 validity of Du Bois height-weight formula for Indians, 389
 Meteor *see* Fireball
 Methionine, and sunlight flavor in milk, 211
 content of teosinte, 725
See also Ethionine
 α -Methoxyphenylacetic acid (MOPA), plant galls and, 518
 3-Methylglucose, phosphorylation by hexokinase, 253
 Mewaldt, L. R., 351
 Mexico, Pleistocene fossil locality, 748
 Meyer, Andre S., 101
 Meyer, K. F., 95
 Meyer-Arendt, Jürgen, 489
 Meyerhoff, Howard A., 3 (9/18)
 Mice, failure of mercaptoethylamine to protect against mutagenic effects of radiation, 777
 fertility, effect of phosphorylated hesperidin, 212, 657
 jugular technique for repeated bleeding of, 563

malonate and Salmonellosis, 140
pneumonia, mechanism for suppression through Newcastle disease virus, 187
teratogenic action of cortisone, 625
toxicity of chlordane vapors, 213
treatment of *C. neoformans* with stilbamidine, 31
 α -radiation effects on mammalian skin, 135
Michels, Nicholas A., 233
Michener, Charles D., 284
Microbiological cultures and phenylalanine, 250
Microelectrode, metal-filled, 22
Microorganisms, growth and vitamin B₁₂ concentration, 307
immune-adherence phenomenon, 733
or mitochondria, 202
Microscope, cylindrical lens, and refractometry of cell particulars, 489
electron, 470
Microsomes *see* Mitochondria
Microspectrophotometry, Schwarzschild-Villiger effect, 382
Middlebrook, Gardner, 297
Middlebrook, W. R., 515
Milk, clotting, complementary enzyme actions, 753
heptachlor epoxide in, 383
human, fractions of, and virus multiplication, 781
iodinated protein in, 749
methionine and sunlight flavor, 211
Miller, James G., 417
Miller, Joseph M., 31
Miller, Karen L., 416
Miller, Robert C., 335
Miller, R. W., 111
Millman, Nathan, 212
Milner, Max, 163
Mine "roof sewing," 685
Mirsky, I. Arthur, 602
Misra, Gadadhar, 445, 552
Mississippi River, Cu and Zn occlusion by soil materials, 296
Mitchell, John W., 354, 518
Mitchell, Roland B., 140
Mitochondria of rat liver, and hydroxylamine inhibition, 159
centrifugal preparation free of microsomes, 136
Moeller, Therald, 327
Mohiuddin, S. D., 364
Mold, contamination, inhibition in *Drosophila* food, 388
slime, amoebae tracks in cultures of 597
Molybdenum, component of xanthine oxidase, 555
Monamine oxidase and oxidative deamination of Serotonin derivatives, 596
Monkey, rhesus, hand preference, 622
tissue culture, poliomyelitis virus cultivation, 107
Monroe, Robert A., 555
Mook, Conrad P., 126
Mookerjee, G. C., 389
Moore, A. M., 19
Moore, Donald J., 650
Moos, W. S., 300
Morse, Ray, 600
Moreland, Ferrin B., 494
Morowitz, Harold J., 331, 3 (10/16)
Morphine and pain measurement, 322
Morris, M. P., 627
Morrison, W. D., 379
Mortimer, Robert K., 517
Morton, N. E., 537
Mosaicism, erythrocyte, 695
Mosquitoes, hatching stimulus for *Aedes* eggs, 279
Mount Wrangell Observatory, 420
Mouse, organ rudiments, epithelio-mesenchymal interaction, 52
passaged dengue virus, treatment with protamine sulfate, 255
Moyer, Robert M., 612
Mucopolysaccharides *see* Sulfur
Mullins, L. J., 90, 634
Multiplex projector, 484, 492
Murphy, Gardner, 402
Murphy, Walter J., 541
Murray, Haydn H., 25
Muscle tonus and artery ligation, 193
Mushrooms, frozen, for class study, 331
Mustafa, Ahmed, 411
Mustakallio, Kimmo K., 320
Mutagenic effects of radiation, mercaptoethylamine and, 776, 777
Mutations, in *Drosophila*, 165
lethal, in yeast, x-ray induced, 517
Mycotomes *see* Symbiotes
Myrothecium verrucaria, centrifugation in controlled atmosphere, 158
Mysels, Karol J., 603

N

Nachimson, H., 191
Nagasaki, effect of exposure to atomic bombs on pregnancy termination, 537
Nardi, George L., 299
Nash, C. B., 624
National Academy of Sciences, autumn meeting, abstracts of papers, 567
Amdur, I., 567
Ashley, H., Voss, H. M., and Zartarian, G., 567
Astwood, E. B., Raben, M. S., Rosenberg, I. N., and Westermeyer, V. W., 567
Beams, J. W., Morton, H. S., Jr., and Turner, E. F., Jr., 567
Benedict, Manson, 568
Bisplinghoff, R. L., and Stever, H. G., 568
Buchanan, John M., 568
Buerger, Martin J., 568
Carrier, G. F., 568
Christensen, Halvor N., and Riggs, Thomas R., 569
Coons, Albert H., Leduc, Elizabeth H., and Connolly, Jeanne M., 569
Coryell, Charles D., and Pappas, Alexia C., 569
Den Hartog, J. P., 569
Dietz, Albert G. H., 570
Doty, Paul, and Epstein, Samuel, 570, 756
Gamow, G., 570
Green, Harold D., 570
Griffen, A. B., 571
Griffin, Donald B., 571
von Hippel, A., 571
Honig, Richard E., 571
Horsfall, Frank L., Jr., 572
Howarth, D. J., 572
Hughes, Harry, 572
Little, C. C., 572
Mawardi, Osman K., 573
Mayr, Ernst, 573
McWeeny, Roy, 573
Orowan, E., 573, 574
Pappenheimer, J. R., and Lin, E. C. C., 574
Raper, John R., 574
Rochow, Eugene G., 574
Rossi, B., 575
Serber, Robert, 575
Shaw, Milton, 575
Shutt, R. P., 575
Stanley, W. M., Bachrach, H. L., and Schwerdt, C. E., 576
Stevens, S. S., 576
Stockmayer, W. H., Shultz, A. R., and Fixman, M., 576
Swain, C. Gardner, and Dittmer, Donald C., 576
Szent-Györgyi, Andrew G., 577
Troost, Laurens, and Zakay, Abraham, 577
Uhlig, Herbert H., 577
Warren, B. E., 578
Westheimer, F. H., and Vennesland, Birgit, 578
Wetmore, Ralph H., 578
National Academy of Sciences, report of Committee on Battery Additives, 683
National Bureau of Standards, basic instrumentation, 457
report of committee on AD-X2, 683
scatter sounding experiments, 759
National Science Foundation, Advisory Panel on Minerals Research, 593
estimates of Federal expenditures for scientific research and development in 1954, 747
Naval Research, Office of *see* Physics Branch program
Neechels, H., 723
Neel, J. V., 537
Neel, James V., 116
Nelson, Robert A., Jr., 733
Nerve, reflex, pupillary, and atropine, 624
regeneration, sciatic, in paraprotic rats, 623

Nervous system, 367
 Neurophysiology *see* Geniculate body
 Neurosecretion, symposium on, 579
 Newcastle disease virus, and suppression of pneumonia, 187
 weather influence in blue comb, 601
 Newcomer, Earl H., 161
 New Zealand, radiocarbon measurements, 1
 Nincin in insects, metabolism, 654
 Nickerson, Walter J., 737
 Nissenbaum, Gerald, 31
 Nitramines, 387
 Nitrogen, acid-soluble, in brain cortex during stimulation, 655
 Nitrogen mustard and hematopoietic system in cancer, 161
 Nitrous acid, second order elimination from secondary nitramines, 387
 Nomenclature, atmospheric shells, 283 for varieties of human hemoglobin, 116
 revision for "triterpenoid" steroids, 754
 Noradrenaline and adrenaline, differential assay, 381
See also Adrenaline
 Noxious stimulus, effect on anti-diuretic activity of blood, 602
 Nuclear physics, Birmingham conference, 534
 envelope, 419
 induction principle, 425
 magnetism, research in, 431
 quadrupole spectra, 61
 radiations, angular correlation, 635
 spectroscopy, Indiana conference, 285
 Nuclear power program, single purpose, 729
 Nuclear Research Center, European, 99
 Nucleic acid, content of tissue, IAA and, 443
 intracellular localization by autoradiographs, 555
 Schmidt-Thannhauser method for fractionation, 181
 structure, phosphodianhydride formula and, 560
 Nucleoprotein *see* Protein synthesis
 Numerof, Paul, 43
 Nutrition, methionine content of teosinte, 725

O

Obituaries
 Froehlich, Albert, 314
 Globus, Joseph H., 233
 Swingle, Walter T., 288
 Winogradsky, Sergei Nikolaevitch, 36
 O'Brien, J. P., 135
 Ocular motility *see* Eye
 Odors of optical isomers, 358
Oenothera, chromosomal interchanges and delimitation of species, 557
 Office of Naval Research *see* Physics Branch program

Oleic acid absorption from intestine, Parsnips, sprayed, and frost resistance, 281
 Paraffin thresholds in International Critical Tables, 333
 Oocyte-like bodies on midgut of *S. impressa*, 199
 Oocytes of *T. pyrrhogaster* and ribonucleic acid, 84
Opalina, culture technique, 252
 Oppenheimer, B. S., 305, 783
 Oppenheimer, Enid T., 305, 783
 Optic nerve *see* Geniculate body
 Optical isomers, odors, 358
 Optics, electro-optical scanning techniques, 475
 Philpot-Svensson, 489
 research and instruments of Bausch & Lomb, 465
 Oral temperature readings, evaluation, 719
 Organ reversal, internal, in cat, 333
 Origin of solar system, 195
 Osawa, Syozo, 84
 Osbourn, Raymond A., 423
 Ovary, irradiation and estrogen excretion, 21
 Oxidations, biological, and inhibitory action of hydroxylamine, 159
 deamination of Serotonin derivatives by monamine oxidase, 596
 Oxygen, consumption of adrenal slices from guinea pigs, influence of ACTH, 133
 and tension concept, 254
 enzymatic removal for polarography, 447
 uptake of *E. coli* and streptomycin, 73
 Oxytocin, synthetic pituitary hormone, 543

P—Q

Pace, Nello, 136
 Pacific Northwest, *Trichobilharzia* species and schistosome dermatitis in, 650
 Paddock, Richard B., 597
 Pagán, C., 627
 Pain, controlled and uncontrolled, 144, 755
 producing anti-diuretic substances in blood, 602
 quantifying intensity, 322
 Paine, Thomas Fite, Jr., 73
 Palmer, Ralph A., 3 (12/4)
 Palo Alto food prices, 362
 Pan, S. C., 43
 Paper chromatography, making transfers, 19
 Paper drive, discontinuous, 654
 Paper ionophoresis, separation of purines and pyrimidines, 694
 Parabiosis, in rats, regeneration of sciatic nerves, 623
 survival of irradiated rats in, 654
 Parathyroid and bone citrogenase, 139
 Parker, Johnson, 77
 Parkinsonian tremor and artery ligation, 193
 Parlin, Ransom B., 43

Parsnips, sprayed, and frost resistance, 281
 Parsons, Jonathan, 217
 Particulate matter, centrifugation in controlled atmosphere, 158
 Passports for scientists, 311
 Patent rights and scientists, 764
 Patton, A. R., 725
 Patton, Stuart, 211
 Payne, Merle G., 56
 Pea stem segments, water uptake, 193
 Pearce, George W., 45
 Pegmatite Research Laboratory of U.S. Bureau of Mines, 15
 Peklo, Jaroslav, 202
 Penicillin, biosynthesis and phenylacetic acid, 43
 Pennsylvania fauna, 240
 Perch, daily movements, 321
 Percival, E., 362
 Perkin-Elmer infrared spectrophotometer, 306
 Perkins, H. R., 139
 Perlitz, Max, 165
 Perlman, D., 628
 Permeability of nuclear membrane, 419
 Permutit Q, 614
 Persky, Harold, 381
 Pesticides, phosphorus, 28
 Pestreev, K., 492
 Phagocytosis of *T. pallidum*, 733
 Phenocopies in *Drosophila*, 165
 Phenol-iron(III) complex, 327
 Phenolic disinfectants, inactivating medium, 274
 Phenothiazine and I¹³¹ uptake by rat thyroid, 191
 Phenylacetic acid and penicillin biosynthesis, 43
See also Methoxyphenylacetic acid
 Phenylalanine, accumulation by *E. coli*, 250
 precursor, autocatalytic growth in accumulation of, 251
 Phillips, M., 450
 Philpot-Svensson optics, 489
 Phosphatase, acid, in prostatic extracts, electrophoretic behavior, 247
 of alkaline serum, ion exchange effect and cancer, 114
 Phosphate release rate from ATP, progesterone and, 103
 Phosphatides in antigens for serodiagnosis of syphilis, 55
 Phosphodianhydride formula and structure of nucleic acids, 560
 Phosphorus, metabolism, 2,4-D and, 627
 P³² incorporation rates into RNA, 555
 uptake by tissues under different doses of injected P³², 651
 Phosphorylated hesperidin *see* Hesperidin
 Phosphorylation of 3-methylglucose by hexokinase, 253

Photochemistry, first law, 117
 Photogrammetry, projector for aerial mapping, 484, 492
 Photometry, flame, hazard, 494
 Photoperiodicity, behavior of rice varieties, 552
 gonadal response, 351
 response of Indian wheats, 445
 Photoperiodism, symposium, 768
 Photosynthesis as photoelectric phenomenon, 696
 Physical activity, effect on blood vitamin A and carotene, 629
 Physics Branch, ONR, program impact, 227
 Physics, nuclear, angular correlation, 635
 See also Nuclear physics
 Physiological pain, 144, 755
 Physoderma disease of barnyard grass, 693
 Pick, Ernest P., 314
 Pimentel, David, 48
 Pineus, Gregory, 3 (7/24)
 Pitney, William R., 307
 Plant, albinism and hydrazine derivatives, 192
 flowering, auxin and temperatures, 215
 fumigants, 28
 galls induced by α -methoxyphenyl-acetic acid, 518
 metabolism, phosphorus, 2,4-D and, 627
 protein synthesis, 302
 seedlings, holder for use in Avena test, 214
 tubers, potato culture, 384
 Plant growth, and tetrazolium chloride, 77
 antibiotic action on auxin, 357
 inhibition, auxin-induced water uptake, 193
 modifying effects and MOPA, 518
 modifying substances, increased translocation with boron, 354
 of tobacco pith tissue, IAA and nucleic acid content, 443
 photoperiodic behavior of rice varieties, 552
 photoperiodic response of Indian wheat, 445
 substance in apple endosperm, 418
 See also Rubidium absorption
 Plant growth substances, and frost resistance, 281
 Plantin, L.-O., 751
 Plants, tolerance to chronic gamma radiation from Co^{60} , 697
 Plasma proteins, circulating and extravascular, equilibrium, 301
 See also Blood plasma
 Plastics, embedded, and malignant tumors, 305, 783
 Pleistocene fossil locality in Mexico, 748
 glacial geology, field meeting, 580
 Pneumococci, 733
 Pneumonia, mechanism for suppression through Newcastle disease virus, 187
 Polarography, enzymatic removal of oxygen for, 447
 investigation of chlorophyllins, 444
 Poliomyelitis virus cultivation in tissue, 107
 Politics and scientists, 418, 449
 Pollard, William G., 479
 Polychaetous annelids, technique for rearing, 363
 Polymers see Plastics
 Polysaccharides, muco- see Sulfur
 Popper, Hans, 80
 Population Council, formation, 649
 Posture and radon elimination in breath, 112
 Posvic, Harvey, 358
 Potato tubers, culturing, 384
 Poultry see Chicken
 Pregnancy termination and effect of exposure to atomic bombs, 537
 Preston, William H., Jr., 518
 Price, Winston H., 49
 Progesterone and phosphate release rate from ATP by liver homogenates, 103
 Projector, ER-55, for aerial mapping, 484, 492
 Prostatic extracts, electrophoretic behavior of acid phosphatase, 247
 Protamine, chylomicrons, and clot formation, 46
 treatment of dengue virus, 255
 Protein, components in acid phosphatase, 247
 iodinated, in milk, 749
 metabolism and interactions, 558
 synthesis and tobacco mosaic virus, 529
 Proteins, biogenesis, species specificity of fibrinogen, 515
 plasma, circulating and extravascular, equilibrium, 301
 role in ion transport across membranes, 711
 See also Serum proteins
 Proteolysis, enzymes and sulfa drug analysis, 364
 radioactive measurement rate, 299
 Protociliate culture, 252
 Protozoa, slide preparation of, 31
 Pseudorasbora, new articular facet in upper jaw, 357
 Psychology, conformity to social norms 598
 different I.Q.'s for same individual on different tests, 594
 hand preference in rhesus monkey, 622
 physiology, avoidance conditioning, 157
 Pteroylglutamic acid and thymus gland of chick, 720
 Public Health Service research grants and growth of medical research, 337
 Public relations, science and, 420

Puerto Rico, aphids and wind currents, 115
 Pugh, Leonora H., 187
 Punch card for abstracts of bacteriological papers, 360
 Pupil dilatation, atropine and, 624
 Purcell, E. M., 431
 Pyrimidines, 694
 Purines and pyrimidines, separation by paper ionophoresis, 694
 Quantum conversion in photosynthesis, 696
 Quartz see Silica
 Quadrupole spectra in solids, 61
 Quinones from flour beetles, 324
 Quiring, D. P., 30

R

Rabbit embryo, heartbeat restored after exposure to low temperature, 550
 Racusen, D. W., 302
 Radiation, body, and hematopoietic system in cancer, 161
 cosmic, international conference, 701
 dosimeter, 184
 gamma, from Co^{60} , plant tolerance to, 697
 ionizing, effect of whole blood transfusion on dogs exposed to, 111
 mutagenic effects, mercaptoethylamine and, 776, 777
 sickness, x-ray dose-body size relationship, 271
 solar and Takata effect, 255
 See also Irradiation, X-radiation
 Radiations, nuclear, angular correlation of, 635
 Radio propagation research at NBS, 759
 Radioactive colloids, safety limits, 282
 Radioactive human serum albumen and determination of blood volume, 595
 Radiocarbon dating of Alleröd period, 5
 measurements, Copenhagen, 6
 Yale, at Pyramid Valley, New Zealand, 1
 Radiographs, intracellular localization of nucleic acid, 555
 radiographic detection of S^{35} in ear membranes, 520
 Radioisotopes, in body, effect of chelating agents, 24
 pipetting apparatus for, 102
 Radium see Radon
 Radomski, Jack L., 383
 Radon elimination in breath, posture and, 112
 Raines, G. N., 565
 Raman Effect, anniversary of discovery, 32
 Ramaswami, L. S., 357
 Ramaswamy, S. S., 389
 Rat, emotional defecation, 352
 R. hawaiiensis, susceptibility to warfarin, 44

intestinal mucosa, 253
 kidney, mercuro inhibition of succinic dehydrogenase, 320
 slices, glycogen synthesis, 416
 leucocyte count, effect of body and tail heating, 20
 liver homogenates, progesterone and phosphate release rate from ATP, 103
 liver mitochondria, centrifugal preparation free of microsomes, 136
 hydroxylamine inhibition, 159
 lymphoma, transplantable, 355
 normal and hypophysectomized, chemical constitution of inflammatory exudate, 415
 parathyroid and bone citogenase, 139
S^m detection in inner ear, 520
 thyroid, phenothiazine and I¹³¹ uptake, 191
 Rats, dietary choices occasioned by exercise, 780
 irradiated, survival in parabiosis, 654
 nutrition, allithiamine in, 548
 oral administration of Spanish moss, 626
 parabiotic, regeneration of sciatic nerves, 623
 Ravich, Robert A., 144
 Raw, Isaacs, 159
 Ray, F. E., 557
 Raymond, Samuel, 388
 Read, W. T., 422
 Red blood cells, life span, 72
See also Blood erythrocytes
 Red tide, 329
 Reed, Lowell J., appointed president of Johns Hopkins, 235
 Reed, Roger W., 360
 Refractometry of cell particulars with cylindrical lens microscope, 489
 Reichstein's substance S, metabolism, 751
 Reish, Donald J., 363
 Rescher, Nicholas, 420
 Research, and administration, scientific, 227
 committee role in international biological and medical congresses, 361
 expenditures of Federal government, NSF estimate, 747
 fellowships in medical sciences, postdoctoral, careers of applicants, 400
 free, vs. design research, 91
 funds, hope chest, 417
 grants, Public Health Service, 337
 planning and research policy scientists, 147
 Resonance, magnetic, 431
 Reticular fibers, carbohydrate components, 614
 Reticuloendothelial system stimulation with choline, 353
 Reynolds, S. R. M., 248
 Rh blood factor, 721
 Rhesus monkey, hand preference, 622
 Rhododendron leaves, andromedotoxin from, for lowering of blood pressure, 543
 Rhykerd, Charles L., 192
 Riboflavin phosphate for bacterial luminescence, 385
 Ribonucleic acids (RNA), and study of phosphorus incorporation in single cells, 555
 fractionation method, 181
 in *Triturus pyrrhogaster* oocytes, 84
 Rice, fields and use of 2,4-D herbicides, 782
 photoperiodic behavior, 552
 Richter, Curt P., 91
 Rickettsiae, variations in virulence, factors involved, 49
 Riley, Gordon A., 90
 Riley, James F., 332
 Rocky Mountain spotted fever, 49
 Rodenberg, Sidney D., 529
 Rodenticides *see* Warfarin
 Rodents, American, chromosome numbers of, 630
 fertility and phosphorylated hesperidin, 212
 malignant tumors and embedded plastics, 305, 783
 sperm survival in, 564
See also Mice, Mouse, Rats
 Rodkey, F. Lee, 488
 Roistacher, C. N., 186
 Roller, Duane, new editor of AAAS journals, 763
 Ronwin, Edward, 560
 Rose, Jerzy E., 22
 Rose, M. E., 635
 Rosen, Fred, 212
 Rosenbloom, Louis, 114
 Roston, Sidney, 381
 Roucayrol, Jean-Claude, 493
 Rubber, casts of soil cavities, 380
 latex and glass needles, 364
 Rubenstein, Boris B., 564
 Rubidium absorption, stimulation by auxins, 243
 Russell, R. D., 486
 Russell, W. O., 442

S

Saccharomyces cerevisiae, x-ray induced lethal mutations, 517
 Safety pipette, 488
 Saffer, Charles M., Jr., 521
 Selgado, E., 415
Salmonella typhimurium infection in mice, malonate and, 140
 Sampling, dubious procedures in biology, 604
 Sanneman, Everett H., 307
 Santos, P. Souza, 410
 Sarcoma *see* Cancer, Growth, Tumor
 Sato, Ryo, 250
 Saunders, J. W., Jr., 135
 Sax, Karl, 658
 Scanning techniques, processing of two-dimensional patterns, 475
 Scatter sounding experiments, high-frequency, at NBS, 759
 Schadt, C. F., 490
 Schaefer, W. E., 18
 Schaeffer, Morris, 107
 Schafer, J. P., 167
 Scharrer, Berta, 579
 Scharrer, Ernst, 579
 Schenk, Worthington G., 72
 Scher, Allen M., 82
 Schiller, Francis, 755
 Schistosome dermatitis in Pacific Northwest, *T. oregonensis* and *T. eliae*, agents of, 650
 Schizophrenia, stress and toxicity of serum, 409
 Schmidt-Thannhauser method for fractionation of nucleic acids, 181
 Schneider, Martin, 654
 Schneider, Walter C., 419
 Schwarzschild-Villiger effect in microspectrophotometry, 382
 Schull, W. J., 537
 Schulman, James H., 184
 Schultz, A. S., 18
 Schwarting, A. E., 132
 Sciatic nerves in parabiotic rats, regeneration, 623
 Science and Mathematics, AAAS Cooperative Committee on Teaching of, 527
 Science, and public relations, 420
 Cooperative Research Foundation for exchange of information, knowledge, and skills, 95
 fashions in, 331, 784
 history, vitamin discovery, 632
 in 1953, summary of progress, 769
 in U.S., review, 617
 medicine and, fashions in, 784
 teachers, dearth of, in Great Britain, 685
 teaching in secondary schools, 329
 Scientific research and administration, 227
 free research vs. design research, 91
 funds, hope chest, 417
 planning and policy scientists, 147
 Scientific Book Register, 60, 168, 198, 223, 258, 284, 310, 334, 366, 450, 496, 566, 606, 634, 758
 Scientific conferences and presentation of papers, 30
 Scientific property, 764
 Scientific research and development, NSF estimates of Federal expenditures for, 747
 Scientists, and cranks, 167
 and library cataloguer, 390
 and publication rights, 764
 and visa restrictions, 311
 politics and, 449
 true, 418
 Scintillation counter for weak β-ray measurement, 493
 Scott, Earle S., 192
 Scott, H. M., 379
 Scrimshaw, N. S., 725

Scurvy, oxygen consumption of adrenal slices in, 133
 Sea urchins and steel piling, 307
 Sea water, silica disposition, 25
 Secondary school education, 329
 Sediments, colloidal-size silica in, 25
 Seed, Lindon, 595
 Segaloff, Albert, 220
 Seifriz, William, 288
 Seljakov and "beta" ice, 521
 Sen, S. N., 32
 Serine, glycine conversion to by liver tissue, 330
 Serology, serodiagnosis of syphilis, use of phosphatides in antigens, 55
See also Blood
 Serotonin derivatives, oxidative deamination by monoamine oxidase, 596
 Serum, albumin, bovine, and zinc binding, 167
 protein levels of decapod Crustacea, 295
 proteins, avian, electrophoresis, 86
See also Blood serum
 Sex, in bacteria, 169
 ratio, parental age and, 448
 Shanks, M. E., 422
 Shanks, Royal E., 750
 Shapiro, Maurice M., 701
 Sheep, erythrocyte mosaicism, 695
 Shelesnyak, M. C., 47
 Shellenberger, J. A., 163
 Shellman, Richard W., 327
 Shimkin, Michael B., 58
 Shoger, R. L., 650
 Shore, William S., 167
 Shriner, Ralph L., 392
 Shuler, Kurt E., 612
 Sickle cell hemoglobin *see* Heinz bodies
 Sidman, Murray, 157
 Silberger, Julius, Jr., 443
 Silberstein, Richard, 759
 Silica, colloidal occurrence in marine sediments, 25
 crystalline, 131
 Simpson, G. G., 117
 Singer, H., 723
 Singer, Karl, 116
 Skin, mammal, effects of x-radiation at different temperatures, 135
 perception of electrically induced vibrations, 277
 Skoog, Folke, 443
 Slater, Grant G., 654
 Sleator, William, Jr., 277
 Sleep, eye motility in, 273
 Slide rule for time interval calculation, 309
 Smith, George W., 31
 Smith, Patricia H., 505
 Smith, Peter A. J., 653
 Snakes, submicroscopic structure of stratum corneum, 410
 Snyder, J. M., 379
 Social norms, conformity to, 598
 Sodium orthophenylphenate and inhibition of mold contamination, 388
 Soil, cavities, latex casts, 380
 materials and occlusion of Cu and Zn, 296
 Sokoloff, V. P., 296
 Solar radiation and Takata effect, 255
 Solar system origin and cosmic cloud hypothesis, 195
 Solids, quadrupole spectra, 61
 Somatic mutation hypothesis of cancer, 196, 197
 Sonneborn, T. M., 727
 Sonnenfeld, Valerie, 385
 Soviet, education and German universities, 121
 science, 41
 contribution of Stalin, 32
 Soybean, leaves, homogeneous cell preparation, 302
 oil meal, estrogenic activity of isoflavone derivatives, 164
 Spain, W. C., 89
 Spanish moss, effects of oral administration, 626
 Sparrow, Arnold H., 697
 Species delimitation in *Oenothera*, 557
 Spectrophotometry, infrared, and glycogen identification, 141
 Schwarzschild-Villiger effect, 382
 Spectroscopy, background effects, atmospheric corrosion and, 612
 nuclear, Indiana conference, 285
See also Solids
 Sperm survival in rodents, 564
 Spider of hypochilid family from Caraboniferous Age, 685
 Spiro, Melford E., 605
 Spore, definition, 58, 448
 Sporn, J., 723
 Spurr, G. B., 100
 Stains, histological, for reticular fibers, 614
 Stakman, E. C., retirement, 402
 Stanford-Binet tests, different I.Q.'s for same individual, 594
 Starch, bread, susceptibility to enzymatic digestion, 18
 Starkey, Robert L., 357
 Starvation and responsiveness of laboratory animals, 631
 Statistics, analysis of variance, temperature readings, 719
 dubious experimental procedures in biology, 604
 sampling, forest, 750
 Steel piling and sea urchins, 307
 Stein, Marvin, 602
 Steinbauer, G. P., 193
 Steinberg, Arthur G., 721
 Stenberg, Robert L., 48
 Stenn, Frederick, 754
 Steroids, triterpenoid, nomenclatural revision, 754
See also Hormones
 Stevens, G. E., 100
 Stevenson, Heber J. R., 141
 Stewart, John Q., 495
 Stewart, T. D., 3 (8/28)

Stickland, A. C., 3 (9/4)
 Stibamidine and *Cryptococcus neoformans* treatment in mice, 31
Stilbometopa impressa, oöcyst-like bodies on midgut, 199
 Stirrett, L. A., 631
 Stoddard, George Dinsmore, resignation as president of University of Illinois, 291
 Stoffer, Robert L., 749
 Stomach, temperature variations in hunger, 160
 Stommel, Henry, 365
 Stonier, T. T., 344
 Stormont, Clyde, 695
 Story, Charles D., 164
 Stout, Arthur Purdy, 305, 783
 Stout, David B., 757
 Stratum corneum of snakes, submicroscopic structure, 410
 Straub, Lorenz G., 372
 Strauss, Bernard S., 330
 Streptomycin, and oxygen uptake of *E. coli*, 73
 effect of cortisone, 549
 isolation, properties, and utilization, 259
 Strong, R. M., 30
 Sturtevant, M., 657
 Subjective responses *see* Pain
 Sucrose *see* Fructomaltose
 Suits C. G. 451
 Sulfa drug analysis and use of enzymes 364
 Sulfides, diaryldi-, thermochromism of, 411
 Sulfur-35, detection in ear membrane, 520
 Surface wounds, method for quantitative study, 272
 Suzuki, M., 537
 Sweep-frequency scatter sounding, 759
 Swimming, dietary choices of rats occasioned by, 780
 Swisher, S. N., 111
 Symbiotes of insects, 199, 202
 Syphilis, phosphatides in antigens for serodiagnosis, 55
 Syringe carrier and egg clamp for chick embryo inoculation, 47
 Szalkowski, C. R., 364

T

Takahashi, Hitoshi, 699
 Takata effect, 255
 Takeshima, K., 537
 Talmadge, Roy V., 191
 Tandon, S. L., 557
 Tanford, Charles, 167
 Tarshis, I. Barry, 199
 Tatum, E. L., 169
 Tauber, H., 6
 Taxonomy, submicroscopic structure of stratum corneum of snakes, 410
 Taylor, J. Herbert, 555
 Taylor, Raymond L., 119, 224, 319, 524
 Taylor, William Palmer, 449

Techniques

angular correlation of nuclear radiations, 635
artery ligation for control of involuntary movements, 193
assay of life span of red blood cells, 72
aural detection of insect-infested grain, 163
avoidance conditioning, 157
blood volume determination with radioactive human serum albumen, 595
centrifugal preparation of liver mitochondria free of mucosomes, 136
chromatogram spotting apparatus, 56
collecting device for blood samples from intra-arterial catheter, 390
collecting expeditions and salvage of animal bloods, 57
colorimetric determination of antibiotics in aqueous solution, 628
culturing potato tubers, 384
differential assay of adrenaline and noradrenaline, 381
dubious experimental procedures in biology, 604
electrophoresis of avian serum proteins, 86
enzymatic removal of oxygen for polarography, 447
fixing fluid for plant and animal tissue, 161
for collecting, mounting, and sectioning airborne particulate material, 490
for culturing *Opalina*, 252
for rearing polychaetous annelids, 363
fractionation of nucleic acids, 181
frozen mushrooms for class study, 331
gas preparation for assay of tritium, 522
glass needles and latex, 364
glycogen identification in bacteria, 141
granuloma pouch, and inflammatory exudates in hypophysectomized rats, 415
histological stains for reticular fibers, 614
intracellular localization of nucleic acid by autoradiographs, 555
intravenous administration of radioactive colloidal gold, 631
inoculation of chick embryo, 47
jugular, for repeated bleeding of small animals, 563
latex casts of soil cavities, 380
lead isotope method for age determination, 486
liquid scintillator, 493
measurement of blood water by Fischer reagent, 276
metal-filled microelectrode, 22
micro determination of isoniazids in blood, 142

observations on daily movements of fishes, 321
phosphorus administration and injected P^{32} , 651
poliomyelitis virus cultivation in tissue, 107
preparation of C^{14} -cyanide from barium carbonate- C^{14} , 719
preparation of high-purity lithium metal, 778
preparation of protozoan slides, 31
punch card for abstracts of bacteriological papers, 360
quantitative study of surface wounds, 272
radioactive measurement of proteolytic activity, 299
refractometry of cell particulars, 489
scanning, processing of two-dimensional patterns, 475
scatter sounding experiments, 759
Schwarzchild-Villiger effect in microspectrophotometry, 382
separation of purines and pyrimidines by paper ionophoresis, 694
tetrazolium test for gladiolus cormel germination, 186
thiamine derivative with cysteine, 109
transfers in paper chromatography, 19
tube method for anaerobic incubation of bacterin, 144
volumetric flasks and microcell filling adapter for Perkin-Elmer infrared spectrophotometer, 306
 \times -radiation effects on mammalian skin, 135
Telkkä, Antti, 320
Temperature, and auxin in floral initiation, 215
body, low, and metabolic responses, 100
low, recovery of heartbeat after exposure to, 550
readings, oral, evaluation of, 719
variations, intragastric, in hunger, 160
Tension concept in aquatic biology, 254
Teosinte, methionine content, 725
ter Haar, D., 195, 392, 659
Teratogenesis in mice, cortisone and, 625
Terramycin, colorimetric determination in aqueous solution, 628
micoina activity on *Brucellae*, compared with, 413
Tetraakidecahedron and computation of cell volume and density, 599
Tetrazolium, chloride, applications, 77
test for germination in gladiolus cormels, 186
Teubner, F. G., 418
Thermal precipitator, gravimetric, 195
Thermochromism of diarylidisulfides, 411
Thiamine, and ingredients of *Allium* genus, reaction products, 325
derivative with cysteine, 109
requiring organisms and allithiamine, 548
Thiocarbonic acid and albinism, 192
6-8 Thioctic acid in vision, 330
Thioeyanoimidazoles, antithyroid activity, 698
Thiobenzzoate anesthetics, 138, 364
Thiouracil and adrenal glands, 307
Thiourea allyl, and x-irradiation, 552
Thirumalachar, M. J., 693
Thompson, R. Q., 657
Threlkeld, Ann, 749
Thymus gland in chicks, atrophy, 720
Thyroid, inhibitors, 698
-like property of goiter prevention, 749
phenothiazine and T^{32} uptake, 191
Tick fever, variations in virulence of rickettsiae, 49
Tillandsia usneoides L., effects of oral administration, 626
Time intervals, slide rule calculations, 309
Tissue, animal and plant, fixing fluid, 161
carbohydrate components of reticular fibers, 614
culture, poliomyelitis virus cultivation, 107
epithelial, cell volume measurements, 599
mast cells and histamine, 332, 603
Tissues, phosphorus uptake under different doses of injected P^{32} , 651
Titanium in *G. brevis* bloom, 329
Titrimetry and water content of blood, 276
Tobias, Cornelius A., 517
Tobacco mosaic virus, protein synthesis and, 529
Tonks, D. B., 55
Totter, John R., 555
Toxicity, of chlordane vapors, 213
of schizophrenic serum, stress and, 409
Toxicology, posture and radon elimination, 112
Transfusion see Blood transfusion
Trees, effects of wind-drift of weed-killer, 74
Treponema pallidum, phagocytosis, 733
Trichinosis, larvae irradiation with Co^{60} , 75
Trichobilharzia oregonensis and *T. clavae*, agents of schistosome dermatitis, 650
Triethylene melamine and hematopoietic system in cancer, 161
Trimmer, John D., 461
Trisaccharide in honeydew, 304
Tritium, preparation of gas for assay of, 522
Triturus pyrrhogaster oocytes and ribonucleic acid, 84
Tryptophan synthesis in *Claviceps*, 132
Ts'ao, Paul, 193
Tuberculosis, bacilli, pathogenicity of isoniazid-resistant variants, 297
isoniazids in blood, 142

treatment and streptomycin, 259
tuberculostatic drugs, synthetic structures as, 497, 726

Tumors, hepatic, and ethionine feeding, 80
malignant, from embedded plastics, 305, 783
rat lymphoma, 355
See also Cancer; Growth

Turtle hearts, aureomycin producing cardiae arrhythmia in 752

Tuttle, A. H., 749

Tween-80 *see* Disinfectants

Twins, sheep, erythrocyte mosaicism in, 695

Tyler, V. E., Jr., 132

Tyramine, deamination inhibitors of, 596

U—V

Uecker, Donald F., 102

Ulcers, decubital, quantitative study, 272

Ultraviolet light and induction of phenocopies in *Drosophila*, 165

Urinary calculi, zinc phosphate as constituent, 217

Vaccinia virus, inactivation by hyaluronic acid component, 93

Vacuum distillation, preparation of lithium metal by, 778

Vacuum techniques, committee on, 690

Van Antwerpen, F. J., 3 (11/20)

Van Dyken, A. R., 234

Van Middlesworth, L., 749

Van Ness, Glenn, 601

Van Vleck, J. H., 311

Velikovsky's *Worlds in Collision*, 167

Verduin, Jacob, 254

Vibrations, electrically induced, and skin perception, 277

Vibrio metachnikovii, response of irradiated cancer patients to, 442

Vickery, Brian C., 390

Villemonte, James R., 321

Virgona, Angelo, 43

Virus, dengue, treatment with protamine sulfate, 255
multiplication, fractions of human milk and, 781
Newcastle disease, and pneumonia suppression, 187
poliomyelitis, cultivation in tissue, 107
tobacco mosaic virus, protein synthesis and, 529
vaccinia, inactivation by hyaluronic acid component, 93

Visas and scientists, 311

Vision, 6-8 thioctic acid, 330
See also Eye, Geniculate body

Visual perception, processing of two-dimensional patterns by scanning techniques, 475

Vitamin A, blood, and carotene, effect of strenuous physical activity, 629

B₁₂, thiamine derivative with cysteine, 109

B₁₂ and leucovorin, effect on chick thymus gland, 720
conference, 582
potency of British and American standard, 307

C, decrease during gastritis, 557

K and blood clotting in chick, 379

Vitamins, discovery of, 632

Volumetric flasks and microcell filling adapter for infrared spectrophotometer, 306

Vorhaus, Elaine F., 553

W

Wade, Ruth, 103

Wagner, Marvin, 160

Waksman, Selman A., 36, 259

Wald, George, 505

Walker, Elaine L., 136

Walker, Jerome K., 133

Wang, Tung-Yue, 529

Wares, Gordon W., 283

Warfarin, susceptibility of *Rattus hawaiiensis*, 44

Warkany, Josef, 314

Warren, J. M., 622

Water, Chesapeake Bay, light extinction by filter passing materials, 386
content of blood measured by Fischer reagent, 276
supercooled, 521
uptake by pea stem segments, 193;
see also Rubidium absorption

Watson, Bernard B., 527

Weather, forecasting, use of electronic computer, 644
fronts and schizophrenic serum toxicity, 409
influence in blue comb in chickens, 601

Weaver, Warren E., 278

Webb, M., 607

Weed-killer, effects of wind-drift on trees, 74

Weigert, Thomas H., 82

Weight, relation of adrenal to body, 30

Weil, George L., 729

Weiner, Nathan, 116

Weir, W. C., 695

Weiss, Paul, 33

Welden, F., 306

Wheat, Indian, photoperiodic response, 445

Whetstone, R. R., 28

Whistler, Roy L., 257, 565

White, George W., 60

Whitehead, Marvin D., 693

Whitman, C. O., 616

Whitney, Ira B., 555

Wilde, Kenneth A., 43

Wilder, A. G., 490

Wildhack, W. A., 477

Wiles, Charles E., 72

Willaman, J. J., 329

Wilzbach, K. E., 234, 522

WIN 4510, 138, 364

Wind, currents and aphids, 115

drift and 2,4-D herbicides, 782
of weed-killer, effects on Puerto Rican trees, 74

Winzler, Richard J., 330

Wolcott, George N., 74, 115

Wolfe, J. E., 163

Wood, D. E., 135

Wood, J., 537

Wood, John L., 698

Woodbury, R. A., 624

Wound healing, quantitative study, 272

Wright, B. M., 195

Wright, S., 537

Wuggatz, Walter L., 444

Wylie, C. C., 124, 145, 725

Wynne, E. Staten, 442

Wyss, Orville, 509

X—Y—Z

Xanthine oxidase, molybdenum as component of, 555

Xanthomatosis, hypercholesterolemia, effects of heparin on plasma lipoproteins, 653

X-irradiation, allyl thiourea and, 552
effects on mammalian skin at different temperatures, 135
See also Irradiation; Radiation

X-ray dose-body size relationship in radiation sickness, 271

X-rays
absorption coefficients, 300
recessive lethal mutations in yeast, 517
small-volume dosimeter, 184

Yale natural radiocarbon measurements, Pyramid Valley, New Zealand, 1

Yamada, Masashi, 529

Yamazaki, J., 537

Yams, alkaloids in, 329

Yancey, P. H., 58

Yang, Wei, 752

Yang, William C. T., 252

Yeast, x-ray induced lethal mutations, 517

Yesinick, Charlotte, 80

Yochelson, E. L., 240

Yoder, Lester, 164

Young, Allen C., 82

Yurugi, Shojiro, 109, 325

Zarrow, M. X., 650

Zeit, Walter, 160

Zelen, Marvin, 523

Zelle, Max R., 34

Zinc, binding and impurities in bovine serum albumin, 167
fusion technique, 522
occlusion by soil materials, 296

Zinc phosphate as constituent of urinary calculi, 217

Zirconium in *G. brevis* bloom, 329

Zoology, collecting expeditions and salvage of animal bloods, 57

Zwolinski, Bruno J., 43

0
7,
as
f-
o-
52
f-
in
st,
re-
a-
ns,
ine
in-
and
118